



United States
Department of
Agriculture



NRCS

Natural
Resources
Conservation
Service

In cooperation with
United States Department
of the Interior; Bureau of
Land Management and
Bureau of Indian Affairs;
and the New Mexico
Agricultural Experiment
Station

Soil Survey of Rio Arriba Area, New Mexico, Parts of Rio Arriba and Sandoval Counties



How To Use This Soil Survey

General Soil Map

The general soil map, which is a color map, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

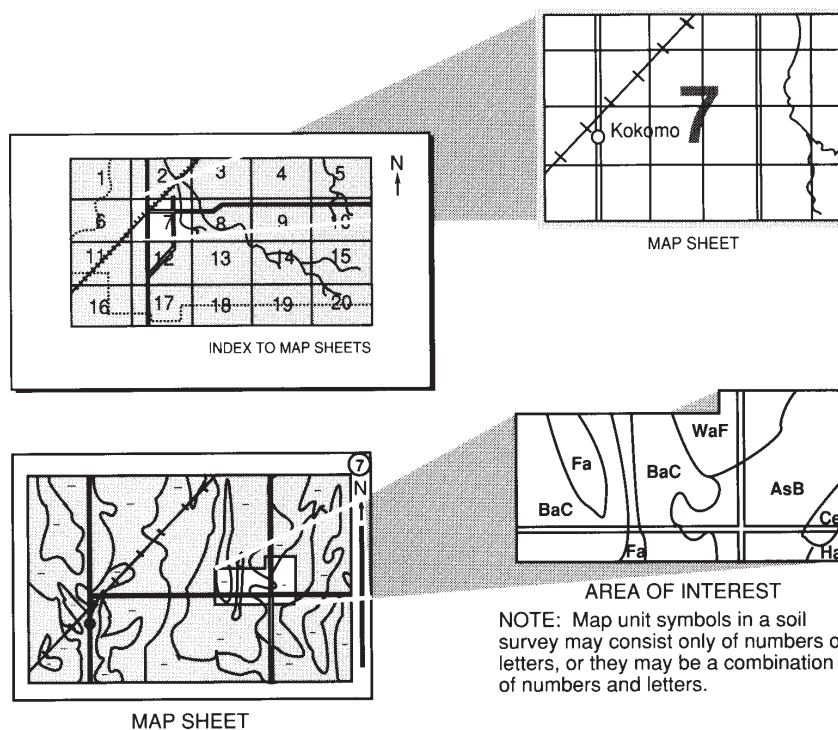
Detailed Soil Maps

The detailed soil maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.



This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1987. Soil names and descriptions were approved in 1989. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1987. This survey was made cooperatively by the Natural Resources Conservation Service and the United States Department of the Interior; Bureau of Land Management and Bureau of Indian Affairs; and the New Mexico Agricultural Experiment Station. The survey is part of the technical assistance furnished to the Upper Chama, East Rio Arriba, San Juan, and the Cuba Soil and Water Conservation Districts and the Santa Clara Indian Pueblos.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

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Cover: Excellent wildlife habitat is characteristic of the Edward Sergeant Wildlife Management Area north of Chama. Hesperus, Pastorius, and Chamita soils are on the nearly level slopes in the foreground and Nabor and Elbuck soils are on the steeper slopes in the background. The 12,019 foot elevation Chama Peak is in the distance.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at <http://www.nrcs.usda.gov>.

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Issued 2008

Foreword

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, ranchers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to ensure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.



Dennis Alexander
State Conservationist
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Soil Survey of Rio Arriba Area, New Mexico, Parts of Rio Arriba and Sandoval Counties

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in cooperation with
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Indian Affairs, and New Mexico Agricultural Experiment Station

General Nature of the Survey Area

Rio Arriba Area is located in north-central New Mexico (*Fig. 1*). The survey area is bordered on the north by the State of Colorado, on the east by the Carson National Forest and Taos County, on the west by San Juan County, and on the south by Sandoval and Santa Fe Counties. It has a total of 1,581,474 acres or 2,471 square miles. Descriptions, names, and delineations of the soils in this survey area do not fully agree with those of the surrounding soil survey areas in San Juan, Taos, and Santa Fe Counties. This is the result of changing concepts of soil classification and series concepts, different needs, uses, and time of the soil survey work.

Tierra Amarilla, the county seat of Rio Arriba County, is in the north-central part of the survey area. According to the 2000 census, the population of Rio Arriba County was 41,490.

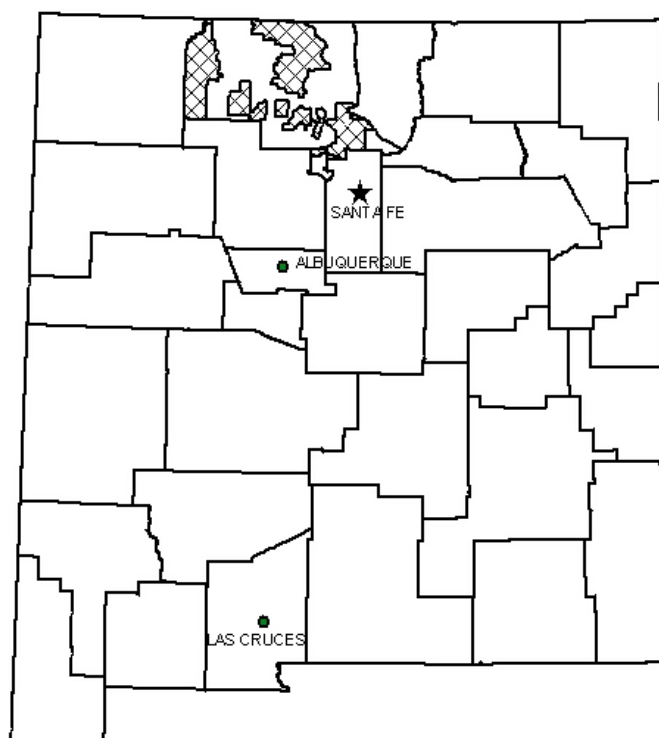


Figure 1.—Location of Rio Arriba Area, New Mexico.

The Rio Chama River traverses the central part of the survey area from north to south, veering east near Abiquiu, eventually joining with the Rio Grande River. The Rio Grande flows north to south through the eastern portion of the survey area. The San Juan River flows south into the county from Colorado along the border with San Juan County and exits west into San Juan County. Drainage is generally to the south and southeast except for small areas in the southeast and southwestern portions of the survey area. Surface runoff east of the Continental Divide flows to the Rio Grande. West of the Continental Divide, drainage flows north and west to the Canyon Largo and San Juan River.

Water for irrigation, municipalities and recreation is supplied by the Rio Grande and Rio Chama Rivers; and, to a small extent, the San Juan River. Water storage developments in the survey area are the Abiquiu, El Vado, and Heron reservoirs (*Fig. 2*).

Elevations range from about 11,403 feet on Grouse Mesa, the highest point in the survey area, to about 5,600 feet where the Rio Grande enters Santa Fe County at Espanola.

Rio Arriba County is principally agricultural with much of its income derived from livestock enterprises. Most of the land in this county is used for grazing.

There are about 32,000 acres of irrigated cropland in the county. Much of the irrigated land is in the valley areas adjacent to the Rio Chama and Rio Grande near Espanola in the southeastern part of the county and near the community of Tierra Amarilla in the north-central part. In addition there are a number of small and widely separated tracts of irrigated land in the valleys of tributary streams. In general, farms are small, and a large part of the feed crops produced are locally fed and marketed in the form of livestock products. In the southeastern part of the county, and at lower elevations, apples, chile, and alfalfa are the major commercial crops. A short growing season limits the types of crops that can be grown successfully in the northern higher



Figure 2.—Heron Reservoir is one of the major water storage facilities in the survey area.

mountain valleys near Chama and Tierra Amarilla, with irrigated hay and pasture crops dominating.

Land use for forestry, wildlife, and recreation is also of major importance in the county. The high mountainous land, as well as the adjacent foothill areas, provides good habitat for many species of wildlife. These lands offer many opportunities for outdoor recreation including camping, fishing, and hunting. Fishing and recreational facilities are available at El Vado Reservoir and other reservoirs and lakes located in the county. The high mountain perennial streams furnish trout fishing during the summer months.

Since about 1900 the gas and oil industry has helped to support the economy of Rio Arriba County. About ninety-eight percent of the gas produced in the area came from upper Cretaceous rock at a depth of 1,000 to 8,500 feet. Farmington sandstone, the Fruitland Formation, and Pictured Cliff sandstone are the most important gas-bearing geologic formations.

History

The area now known as Rio Arriba County was first colonized by the Spanish in 1598. Juan de Onate received a contract from the Spanish Crown to colonize the northern frontier of New Mexico. On July 11, 1598, Onate reached the Indian village he named San Juan de Los Caballeros. Here is where Onate established the first European settlement of the southwest. The geographic area is now known as the Espanola Valley.

In 1695 the first recorded Spanish land grant was established. Thereafter, all other settlement grants were established in the survey area. In the land grants, cultivable land was divided among the head of households, while the large areas of grazing land were used in common. Acequias were built to irrigate cropland along the valleys. These acequias are still in use today.

The coming of the railroad opened up lumbering, coal mining, and agriculture. The Denver and Rio Grande Western Railroad completed its narrow gauge route from Antonito, Colorado to Espanola, New Mexico and from Antonito to Chama in 1880. From Chama the narrow gauge route continued through the coal mining area of Monero. With the aid of branch lines and connecting spurs, lumbering of the timber resources around the Chama Basin took place. The narrow gauge route from Antonito to Espanola known as the "Chilie Line," continued to operate until 1941. The route from Antonito to Chama operates today as the "Cumbres and Toltec Scenic Railroad."

In 1875 the first oil and gas resources were discovered near Gobernador. This industry still plays a role in the economy of Rio Arriba County.

The population in the survey area increased at a constant rate until the 1940s. Rio Arriba County had a population of 16,624 in 1910. By 1940, Rio Arriba County had a population of 25,352. This increase in population can be attributed to the railroad. After the railroad ceased running, the population steadily decreased until about 1970. The population increased during the 1970s, and, according to the 2000 census, Rio Arriba County now has a population of 41,190. This increase in population can be attributed to the development of Los Alamos National Laboratories and the increase in the development of gas and oil resources. Even today, these factors play a role in prosperity of the area.

Geology and Geomorphology

Steve Lacy, geomorphologist, prepared this section.

The Rio Arriba Area lies in the Southern Rocky Mountains physiographic province within the Rocky Mountain System. This province consists of broad, elevated, north-south granite core mountain ranges generally flanked by steeply dipping sedimentary rocks. The county consists of structural uplifts and embayments which are

topographically expressed by mountain ranges and valleys. The eastern and central portions of the county are dominated by mountains which exceed 10,000 feet and are associated with the Brazos Uplift, while the western portion of the county lies within the structural units of the San Juan Basin, Archuleta Arch, and the Chama Basin.

The San Juan Basin covers the western portion of the county. The basin is nearly circular in shape and about 100 miles in diameter. The eastern portion of the basin is asymmetrical with a steep northern limb and a gently dipping southern limb. The eastern boundary of the basin is delineated by a monocline fold which adjoins the Archuleta Arch (Kelley, 1957). The basin contains of Tertiary-aged sedimentary rocks consisting of sandstone, siltstone, mudstone, and shale of the San Jose Formation. Scattered beds of volcanic ash can also be found. The geomorphic structures consist of rolling plains, mesas, and canyons.

The Archuleta Arch lies to the east of the San Juan Basin. This structure separates the San Juan Basin from the shallow Chama Basin. It is a north-trending anticlinorium containing numerous faults with generally small amounts of offset. This arched belt of folded and broken rocks formed as a result of the Laramide deformation (65 million years before present) with a later Cenozoic accentuation. It forms a connection between the Nacimiento uplift in New Mexico and the San Juan Dome in southwestern Colorado. The southern portion of the arch merges with the Chama Basin through a gently dipping slope to the northeast. The eastern margin of the arch is along the western limb of the Chama syncline (Woodward, 1974). The geomorphic structures consist of broken slopes and escarpments following fault traces imposed on structural trends.

The Chama Basin is both a structural and topographic basin. The basin trends north and ranges from 20 miles wide in the south to a 2 mile width near Chama. The length of the basin is around 60 miles. Within the basin the principal structure is the broad, north- trending Chama syncline. It has exposed sections of Permian through Jurassic sedimentary, marine and non-marine rock strata. The southern end of the basin has exposures of Triassic- and Jurassic-age rocks. The Ghost Ranch is located in this location, an area of mesas and canyons exhibiting the vivid and striking colors found in the rocks of the Mesozoic section. The northern part of the basin contains Cretaceous-age sandstones and marine shales. The geomorphic surfaces consist of sandstone cliffs and shale hills and plains.

The Brazos Uplift trends to the northwest and occupies the eastern portion of the county. The uplift is 25 miles wide and around 50 miles long, and is topographically represented by the Tusas Mountains. It is bounded by the synclinal bend of the Chama basin to the west and the San Luis Basin to the east. The geology consists of horst blocks of Precambrian rocks overlain with a thin veneer of Tertiary volcanic and continental clastic rocks (Muehlberger, 1960). The Tusas contain two belts of Precambrian rocks north from the Ojo Caliente area. The western belt is composed principally of quartzite and forms the cliffs and high mountains of the La Madera, Ortega, and Kiawa Mountains; Quartzite Peak and Jawbone Mountain; and the Brazos, Chavez, and Canones boxes. The eastern belt consists of metasedimentary, metavolcanic, and intrusive igneous rocks of the Ojo Caliente area, La Jarita Mesa, Tusas Mountain, Tres Piedras, and the Precambrian inliers north and south of the Laquintas Lakes region in the main portion of the Tusas Mountains. Folding of the Precambrian sequence results in a zig-zag boundary between the two belts of rocks (Muehlberger, 1960). Evidence of glaciation during the last ice age is present in this region and extends into the northern Chama Basin. The geomorphic structures consist of mountain slopes and valleys.

Climate

Prepared by the Natural Resources Conservation Service National Water and Climate Center, Portland, Oregon.

Climate tables are created from climate stations Alcalde, Chama, Dulce, Lindrith 2 SE, and Tierra Amarilla 4 N, New Mexico.

Thunderstorm days, relative humidity, percent sunshine, and wind information are estimated from First Order station Albuquerque, New Mexico.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Alcalde, Chama, Dulce, Lindrith, and Tierra Amarilla in the period 1971 to 2000. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on the length of the growing season.

In winter, average temperatures are 33.0, 23.1, 26.4, 27.7 and 23.7 degrees F, respectively, at Alcalde, Chama, Dulce, Lindrith, and Tierra Amarilla. Average daily minimum temperatures in winter are 17.9, 7.3, 9.7, 13.0 and 6.9 degrees, respectively, at these five stations. The lowest temperatures on record were: -34 degrees at Alcalde on January 7, 1971; -30 degrees at Chama on December 23, 1990; -47 degrees at Dulce on December 12, 1961; -25 degrees at Lindrith on January 2, 1979; and -39 degrees at Tierra Amarilla on January 6, 1971.

In summer average temperatures are 70.1, 60.0, 63.3, 65.8 and 61.2 degrees, respectively, at Alcalde, Chama, Dulce, Lindrith, and Tierra Amarilla. Average daily maximum temperatures in summer are 87.6, 78.1, 82.8, 83.0 and 79.9 degrees F, respectively, at these five stations. The highest temperatures ever recorded were: 102 degrees at Alcalde on July 14, 1971; 103 degrees at Chama on August 12, 1949; 103 degrees at Dulce on June 25, 1954; 100 degrees at Lindrith on July 29, 1995; and 102 degrees at Tierra Amarilla on July 21, 1951.

Growing degree days are shown in Table 3. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (40 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

Average annual total precipitation across the survey area is quite dependent on elevation and location. In general, the lower elevations in the western half of the county receive only 8 to 10 inches of precipitation annually. Precipitation increases to the east and with elevation, reaching as much as 40 inches in the highest places in the National Forest. Most of the survey area receives between 10 and 20 inches annually. At the five climate stations annual precipitation is 10.35 inches at Alcalde, 22.94 inches at Chama, 17.78 inches at Dulce, 14.28 inches at Lindrith, and 16.47 inches at Tierra Amarilla. Of these amounts, about 40 percent, usually falls in May through September. The growing season for most crops falls within this period at lower elevations. The heaviest 1-day precipitation amounts during the periods of record were: 2.00 inches at Alcalde on August 30, 1989; 2.15 inches at Chama on September 22, 1997; 4.00 inches at Dulce on November 22, 1931; 2.25 inches at Lindrith on October 27, 1998; and 2.00 inches at Tierra Amarilla on November 3, 1952. Thunderstorms occur on about 40 days each year, and most occur between May and September, with an average of around 22 in July and August.

Average seasonal snowfall is highly variable across the survey region. As with precipitation, it increases from west to east, and with elevation. At Alcalde 9.7 inches annually is normal; the normal annual amounts at other stations are 107.1, 55.8, 62.0 and 63.7 inches at Chama, Dulce, Lindrith and Tierra Amarilla, respectively. The greatest snow depths at any one time during the periods of record were: 13 inches at Alcalde, recorded on January 16, 1987; 49 inches at Chama on February 21, 1993; 40 inches at Dulce on January 10, 1974; 22 inches at Lindrith on January 21, 1991; and 44 inches at Tierra Amarilla on November 30, 1983. On average, the lower and

drier locations in the survey area have from 5 to 20 days per year with at least 1 inch of snow on the ground. At higher elevations snow cover is more common, including over 100 days per year at Chama, and about 60 days per year at Dulce and Tierra Amarilla. The heaviest 1-day snowfalls on record were: 12.5 inches at Alcalde recorded on January 16, 1987; 24.0 inches at Chama on February 8, 1994; 36.0 inches at Dulce on November 22, 1931; 14.0 inches at Lindrith on March 11, 1975; and 18.0 inches at Tierra Amarilla on January 25, 1949.

The average relative humidity in mid-afternoon is about 40 percent in the winter and between 15 and 20 percent in the summer. Humidity is higher at night, and the average at dawn is about 70 percent in the winter and 45 percent in the summer. The sun shines about 75 to 80 percent of the time in summer and around 65 to 70 percent in winter. The prevailing wind is from the northwest in the winter and early spring, and from the south and southeast the remainder of the year. Average wind speed is highest, around 12 miles per hour, in April.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that

they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

General Soil Map Unit Descriptions

The general soil map in this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one map unit can occur in another but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

Soil Descriptions

Soils on alluvial fans, stream terraces, and flood plains

This group makes up about 11 percent of the survey area. The soils in this group are nearly level to strongly sloping. They are sandy to clayey textured and are excessively drained to poorly drained. The risk of flooding ranges from none to occasional periods of flooding. This group is used for urban development, rangeland, and cropland.

1. Fruitland-Abiquiu-Jocity

Dry, very deep, somewhat poorly drained and well drained, nearly level to gently sloping, moderately coarse to medium textured soils on alluvial fans and flood plains.

Setting

Slope: 0 to 5 percent

Elevation: 5,500 to 6,600 feet

Mean annual precipitation: 8 to 10 inches

Mean annual air temperature: 50 to 52 degrees F.

Frost-free period: 140 to 160 days

Composition

Extent within the survey area: 2 percent

Extent of the soils in the map unit:

Fruitland soils: 28 percent

Abiquiu soils: 27 percent

Jocity soils: 27 percent

Minor soils: 18 percent

Soil Properties and Qualities

- **Fruitland**

Landform: alluvial fans

Depth class: very deep

Drainage class: well drained

Parent material: fan alluvium derived from sandstone

Textural class: moderately coarse

- **Abiquiu**

Landform: flood plains

Depth class: very deep

Drainage class: somewhat poorly drained

Parent material: stream alluvium derived from sandstone

Textural class: coarse

- **Jocity**

Landform: alluvial fans

Depth class: very deep

Drainage class: well drained

Parent material: stream and fan alluvium derived from sedimentary and igneous material

Textural class: medium

- **Minor soils**

Gilco: medium textured soils on flood plains

Walrees: coarse textured soils on flood plains

Sparham: fine textured soils on flood plains

Major Uses

Urban development, rangeland, irrigated cropland and pasture

2. Chamita-Roques-Carrick

Cool and moist, very deep, poorly drained to well drained, nearly level to moderately sloping, medium to fine textured soils on alluvial fans, stream terraces, and flood plains.

Setting

Slope: 0 to 8 percent

Elevation: 7,200 to 8,700 feet

Mean annual precipitation: 16 to 25 inches

Mean annual air temperature: 40 to 45 degrees F.

Frost-free period: 80 to 100 days

Composition

Extent within the survey area: 3 percent

Extent of the soils in the map unit:

Chamita soils: 30 percent

Roques soils: 25 percent

Carrick soils: 25 percent

Minor soils: 20 percent

Soil Properties and Qualities

- **Chamita**

Landform: flood plains

Depth class: very deep

Drainage class: poorly drained

Parent material: stream alluvium derived from sandstone

Textural class: medium

- **Roques**

Landform: alluvial fans

Depth class: very deep

Drainage class: well drained

Parent material: fan alluvium derived from shale

Textural class: fine

- **Carrick**

Landform: stream terrace

Depth class: very deep

Drainage class: well drained

Parent material: Eolian material and stream alluvium derived from volcanic sources

Textural class: fine

- **Minor soils**

Gilco: medium textured soils on flood plains

Riverwash: mostly coarse textured, but variable

Sparham: fine textured soils on flood plains

Walrees: coarse textured soils on flood plains

Major Uses

Urban development, wildlife habitat, rangeland, irrigated cropland and pasture

3. San Mateo-Sparank-Pinavetes

Dry, very deep, moderately well drained to well drained, nearly level to strongly sloping, coarse to fine textured soils on dunes and flood plains.

Setting

Slope: 0 to 12 percent

Elevation: 5,600 to 7,000 feet

Mean annual precipitation: 10 to 13 inches

Mean annual air temperature: 48 to 50 degrees F.

Frost-free period: 120 to 140 days

Composition

Extent within the survey area: 6 percent

Extent of the soils in the map unit:

San Mateo soils: 36 percent

Sparank soils: 30 percent

Pinavetes soils: 22 percent

Minor soils: 12 percent

Soil Properties and Qualities

- **San Mateo**

Landform: flood plains

Depth class: very deep

Drainage class: well drained

Parent material: stream alluvium derived from sandstone and shale

Textural class: medium to moderately fine

- **Sparank**

Landform: flood plains

Depth class: very deep

Drainage class: well drained

Parent material: stream alluvium derived from shale

Textural class: fine

- **Pinavetes**

Landform: dunes

Depth class: very deep

Drainage class: excessively drained

Parent material: Eolian material derived from sandstone

Textural class: coarse

- **Minor soils**

Florita: moderately coarse textured soils on hills

Orlie: medium textured soils on fan remnants

Riverwash: mostly coarse textures, but variable

Major Uses

Wildlife habitat and rangeland

Arid Soils on Hills and Valleys

This group makes up about 14 percent of the survey area. The soils in this group are nearly level to steep sloping. They are sandy to clayey textured and are excessively drained to well drained. The risk of flooding ranges from none to rare periods of flooding. This group is used for rangeland.

4. Silver-Scholle-Losmarios

Dry, very deep, well drained, nearly level to steeply sloping, moderately fine to fine textured soils on stream terraces and alluvial fans.

Setting

Slope: 1 to 35 percent

Elevation: 6,000 to 6,900 feet

Mean annual precipitation: 10 to 13 inches

Mean annual air temperature: 48 to 50 degrees F.

Frost-free period: 120 to 140 days

Composition

Extent within the survey area: 4 percent

Extent of the soils in the map unit:

Silver soils: 30 percent
Scholle soils: 25 percent
Losmarios soils: 25 percent
Minor soils: 20 percent

Soil Properties and Qualities**• Silver**

Landform: stream terraces
Depth class: very deep
Drainage class: well drained
Parent material: stream alluvium derived from mixed sources
Textural class: fine

• Scholle

Landform: stream terraces
Depth class: very deep
Drainage class: well drained
Parent material: stream alluvium mixed sources
Textural class: moderately fine

• Losmarios

Landform: alluvial fans
Depth class: very deep
Drainage class: well drained
Parent material: slope alluvium derived from shale
Textural class: fine

• Minor soils

Hagerman: medium textured soils on hills
Penistaja: medium textured soils on stream terraces
Rock outcrop

Major Uses

Wildlife habitat and rangeland

5. Florita-Pinavetes-Palacid

Dry, very deep, well drained to excessively drained, nearly level to steeply sloping, coarse to moderately fine textured soils on hills and dunes.

Setting

Slope: 0 to 40 percent
Elevation: 5,600 to 7,200 feet
Mean annual precipitation: 10 to 13 inches
Mean annual air temperature: 48 to 50 degrees F.
Frost-free period: 120 to 140 days

Composition

Extent within the survey area: 10 percent

Extent of the soils in the map unit:

Florita soils: 32 percent
 Pinavetes soils: 24 percent
 Palacid soils: 24 percent
 Minor soils: 20 percent

Soil Properties and Qualities**• Florita**

Landform: hills

Depth class: very deep

Drainage class: well drained

Parent material: eolian material and slope alluvium derived from sandstone

Textural class: moderately coarse

• Pinavetes

Landform: dunes

Depth class: very deep

Drainage class: excessively drained

Parent material: eolian derived from sandstone

Textural class: coarse

• Palacid

Landform: hills

Depth class: very deep

Drainage class: well drained

Parent material: slope alluvium and colluvium derived from mixed sources

Textural class: moderately fine

• Minor soils

Fruitland: moderately coarse textured soils on fan remnants

Razito: coarse textured soils on dunes

Penistaja: medium textured soils on fan remnants

Rock outcrop

Major Uses

Wildlife habitat and rangeland

Semiarid Soils on Uplands and Valleys

This group makes up about 51 percent of the survey area. The soils in this group are nearly level to steep sloping. They are sandy to clayey textured and are excessively drained to well drained. The risk of flooding ranges from none to rare periods of flooding. This group is used for wood products and rangeland.

6. Orlie-Sparham-Nalivag

Moist, very deep, well drained, nearly level to strongly sloping, medium to fine textured soils on fan remnants and flood plains.

Setting

Slope: 0 to 15 percent

Elevation: 5,500 to 7,500 feet

Mean annual precipitation: 13 to 16 inches

Mean annual air temperature: 45 to 50 degrees F.

Frost-free period: 100 to 130 days

Composition

Extent within the survey area: 4 percent

Extent of the soils in the map unit:

Orlie soils: 35 percent

Sparham soils: 29 percent

Nalivag soils: 20 percent

Minor soils: 16 percent

Soil Properties and Qualities

• Orlie

Landform: fan remnants

Depth class: very deep

Drainage class: well drained

Parent material: fan alluvium derived from sandstone and shale

Textural class: medium and moderately fine

• Sparham

Landform: flood plains

Depth class: very deep

Drainage class: well drained

Parent material: stream alluvium derived from shale

Textural class: fine

• Nalivag

Landform: fan remnants

Depth class: very deep

Drainage class: well drained

Parent material: fan alluvium derived from sandstone and shale

Textural class: medium and moderately fine

• Minor soils

Vessilla: shallow, moderately coarse textured soils on fan remnants

Royosa: coarse textured soils on dunes

Pinitos: medium textured soils on fan remnants

Riverwash: mostly coarse textures, but variable

Major Uses

Wildlife habitat and rangeland

7. Orlie-Vessilla

Moist, very deep and shallow, well drained, nearly level to steep, medium to moderately coarse textured soils on mesa summits, hills, and fan remnants.

Setting

Slope: 1 to 45 percent

Elevation: 6,000 to 7,800 feet

Mean annual precipitation: 13 to 16 inches

Mean annual air temperature: 45 to 49 degrees F.

Frost-free period: 100 to 130 days

Composition

Extent within the survey area: 5 percent

Extent of the soils in the map unit:

Orlie soils: 50 percent

Vessilla soils: 30 percent

Minor soils: 20 percent

Soil Properties and Qualities

• Orlie

Landform: mesa summits and fan remnants

Depth class: very deep

Drainage class: well drained

Parent material: fan and slope alluvium derived from sandstone and shale

Textural class: medium and moderately fine

• Vessilla

Landform: hills and mesas

Depth class: shallow

Drainage class: well drained

Parent material: slope alluvium over residuum derived from sandstone

Textural class: moderately coarse

• Minor soils

San Mateo: medium and moderately fine textured soils on stream terraces

Sparank: fine textured soils on stream terraces and flood plains

Gobernador: fine textured soils on stream terraces

Major Uses

Wildlife habitat and rangeland

8. Pinitos-Menefee-Badland

Moist, very deep and shallow, well drained, nearly level to steep, medium to moderately fine textured soils and badland on hills.

Setting

Slope: 2 to 45 percent

Elevation: 6,100 to 7,800 feet

Mean annual precipitation: 13 to 16 inches

Mean annual air temperature: 45 to 49 degrees F.

Frost-free period: 100 to 130 days

Composition

Extent within the survey area: 6 percent

Extent of the soils in the map unit:

Pinitos soils: 35 percent

Menefee soils: 25 percent

Badland: 21 percent

Minor soils: 19 percent

Soil Properties and Qualities

- **Pinitos**

Landform: hills

Depth class: very deep

Drainage class: well drained

Parent material: slope alluvium derived from sandstone and shale

Textural class: medium and moderately fine

- **Menefee**

Landform: hills

Depth class: shallow

Drainage class: well drained

Parent material: colluvium over residuum derived from sandstone and shale

Textural class: fine

- **Badland**

Badland is a miscellaneous area consisting of exposed areas of raw shale that is essentially barren of vegetation. Seams and layers of coal and porcelenite are also included. These areas are highly dissected.

- **Minor soils**

Vessilla: shallow, moderately coarse textured soils on fan remnants

Royosa: coarse textured soils on dunes

Lindrith: coarse textured soils on hills

Rock outcrop

Major Uses

Wood products, wildlife habitat, and rangeland

9. Dermala-Tinaja-Chita

Moist, very deep, well drained, nearly level to very steep, medium to moderately fine textured soils on hills, mesas summits and escarpments.

Setting

Slope: 0 to 75 percent

Elevation: 5,800 to 7,800 feet

Mean annual precipitation: 13 to 16 inches

Mean annual air temperature: 45 to 49 degrees F.

Frost-free period: 100 to 130 days

Composition

Extent within the survey area: 9 percent

Extent of the soils in the map unit:

Dermala soils: 28 percent

Tinaja soils: 27 percent

Chita soils: 25 percent

Minor soils: 20 percent

Soil Properties and Qualities

- **Dermala**

Landform: hills

Depth class: very deep

Drainage class: well drained

Parent material: old slope alluvium over colluvium derived from igneous and sedimentary rock

Textural class: moderately fine

- **Tinaja**

Landform: escarpments

Depth class: very deep

Drainage class: well drained

Parent material: colluvium derived from sandstone

Textural class: medium

- **Chita**

Landform: mesas

Depth class: very deep

Drainage class: well drained

Parent material: Eolian material and slope alluvium derived from sandstone and igneous material

Textural class: moderately fine

- **Minor soils**

Rosced: moderately coarse textured soils on hills

Chimayo: shallow, medium textured soils on hills

Yata: moderately coarse textured soils on hills

Rock outcrop

Major Uses

Wood products, wildlife habitat, and rangeland

10. Vessilla-Menefee-Rock outcrop

Moist, shallow, well drained, nearly level to steep, moderately coarse to moderately fine textured soils on hills, breaks, and mesa escarpments.

Setting

Slope: 0 to 45 percent

Elevation: 6,100 to 7,800 feet

Mean annual precipitation: 13 to 16 inches

Mean annual air temperature: 45 to 49 degrees F.

Frost-free period: 100 to 130 days

Composition

Extent within the survey area: 18 percent

Extent of the soils in the map unit:

Vessilla soils: 39 percent

Menefee soils: 23 percent

Rock outcrop: 16 percent

Minor soils: 22 percent

Soil Properties and Qualities

- **Vessilla**

Landform: hills, breaks, and mesas

Depth class: shallow

Drainage class: well drained

Parent material: slope alluvium over residuum derived from sandstone

Textural class: moderately fine

- **Menefee**

Landform: hills

Depth class: shallow

Drainage class: well drained

Parent material: colluvium over residuum derived from sandstone and shale

Textural class: medium

- **Rock outcrop**

Rock outcrop consists of barren or nearly barren areas of exposed sandstone and shale on ridges, ledges, and escarpments.

- **Minor soils**

Florita: moderately coarse textured soils on hills

Chimayo: shallow, medium textured soils on hills

Orlie: medium textured soils on hills

Major Uses

Wood products and wildlife habitat

11. Berryman-Elpedro-Ruson

Moist, very deep, well drained, nearly level to strongly sloping, moderately fine and fine textured soils on alluvial fans, hills, and stream terraces.

Setting

Slope: 1 to 8 percent

Elevation: 6,500 to 7,600 feet

Mean annual precipitation: 13 to 16 inches

Mean annual air temperature: 45 to 49 degrees F.

Frost-free period: 100 to 130 days

Composition

Extent within the survey area: 4 percent

Extent of the soils in the map unit:

Berryman soils: 35 percent

Elpedro soils: 27 percent

Ruson soils: 20 percent

Minor soils: 18 percent

Soil Properties and Qualities

- **Berryman**

Landform: alluvial fans

Depth class: very deep

Drainage class: well drained

Parent material: fan alluvium derived from limestone and shale

Textural class: fine

- **Elpedro**

Landform: hills

Depth class: very deep

Drainage class: well drained

Parent material: Old alluvium derived from sandstone and shale

Textural class: moderately fine

- **Ruson**

Landform: stream terrace

Depth class: very deep

Drainage class: well drained

Parent material: Stream alluvium derived from shale

Textural class: fine

- **Minor soils**

Orlie: medium textured soils on hills

Menefee: shallow, medium textured soils on hills

Tinaja: medium textured soils on hills

Rock outcrop

Major Uses

Wildlife habitat and rangeland

12. Calendar-Menefee-Amal

Moist, shallow to very deep, well drained, gently sloping to steep, moderately fine and fine textured soils on hills and plateaus

Setting

Slope: 2 to 45 percent

Elevation: 6,100 to 7,800 feet

Mean annual precipitation: 13 to 16 inches

Mean annual air temperature: 45 to 49 degrees F.

Frost-free period: 100 to 130 days

Composition

Extent within the survey area: 5 percent

Extent of the soils in the map unit:

Calendar soils: 30 percent

Menefee soils: 30 percent

Amal soils: 20 percent

Minor soils: 20 percent

Soil Properties and Qualities

- **Calendar**

Landform: hills

Depth class: moderately deep

Drainage class: well drained

Parent material: slope alluvium derived from shale

Textural class: fine

- **Menefee**

Landform: hills

Depth class: shallow

Drainage class: well drained

Parent material: colluvium over residuum derived from sandstone and shale

Textural class: moderately fine and fine

- **Amal**

Landform: plateaus

Depth class: very deep

Drainage class: well drained

Parent material: Eolian material and slope alluvium derived from shale

Textural class: moderately fine

- **Minor soils**

Berryman: fine textured soils on hills

Peney: shallow, medium textured soils on hills

Stout: shallow, moderately coarse textured soils on hills

Rock outcrop

Major Uses

Wood products and wildlife habitat

Cool, Semiarid and Subhumid Soils on Uplands and Valleys

This group makes up about 17 percent of the survey area. The soils in this group are nearly level to very steep. They are loamy to clayey textured and are moderately well drained to well drained. This group is used for wood products and rangeland.

13. Capillo-Vamer-Suposo

Cool and moist, shallow and very deep, well drained, nearly level to steep, moderately fine and fine textured soils on stream terraces, hills, and breaks.

Setting

Slope: 0 to 35 percent

Elevation: 6,900 to 8,500 feet

Mean annual precipitation: 16 to 18 inches

Mean annual air temperature: 40 to 45 degrees F.

Frost-free period: 80 to 100 days

Composition

Extent within the survey area: 3 percent

Extent of the soils in the map unit:

Capillo soils: 28 percent

Vamer soils: 27 percent

Suposo soils: 27 percent

Minor soils: 18 percent

Soil Properties and Qualities

- **Capillo**

Landform: stream terrace

Depth class: very deep

Drainage class: well drained

Parent material: fan and stream alluvium derived from shale

Textural class: fine

- **Vamer**

Landform: breaks and hills

Depth class: shallow

Drainage class: well drained

Parent material: slope alluvium and colluvium derived from sandstone and shale
Textural class: fine

- **Suposo**

Landform: stream terrace
Depth class: very deep
Drainage class: well drained
Parent material: stream alluvium derived from shale
Textural class: fine

- **Minor soils**

Carjo: moderately deep, fine textured soils on hills
Brycan: medium textured soils on stream terraces
Chamita: medium textured soils on flood plains
Rock outcrop

Major Uses

Wood products, wildlife habitat, and rangeland

14. Rombo-Hogg-Nusmag

Cool and moist, moderately deep and very deep, moderately well drained and well drained, nearly level to moderately steep, fine textured soils on stream terraces, hills, and cuestas.

Setting

Slope: 0 to 25 percent
Elevation: 7,400 to 8,200 feet
Mean annual precipitation: 16 to 18 inches
Mean annual air temperature: 40 to 45 degrees F.
Frost-free period: 80 to 100 days

Composition

Extent within the survey area: 3 percent

Extent of the soils in the map unit:

Rombo soils: 30 percent
 Hogg soils: 25 percent
 Nusmag soils: 25 percent
 Minor soils: 20 percent

Soil Properties and Qualities

- **Rombo**

Landform: hills
Depth class: moderately deep
Drainage class: well drained
Parent material: slope alluvium and colluvium derived from shale
Textural class: fine

- **Hogg**

Landform: cuestas and hills
Depth class: very deep
Drainage class: well drained
Parent material: colluvium derived from sandstone and shale
Textural class: fine

- **Nusmag**

Landform: stream terrace

Depth class: very deep

Drainage class: moderately well drained

Parent material: stream alluvium derived from shale

Textural class: fine

- **Minor soils**

Mara: moderately fine textured soils on hills

Wiggler: shallow, medium textured soils on hills

Stout: shallow, moderately coarse textured soils on hills

Rock outcrop

Major Uses

Wildlife habitat and rangeland

15. Nabor-Lobat-Abreu

Cool and moist, very deep, well drained, strongly sloping to very steep, moderately fine and fine textured soils on mountain slopes.

Setting

Slope: 5 to 60 percent

Elevation: 7,700 to 9,800 feet

Mean annual precipitation: 25 to 28 inches

Mean annual air temperature: 40 to 44 degrees F.

Frost-free period: 70 to 90 days

Composition

Extent within the survey area: 11 percent

Extent of the soils in the map unit:

Nabor soils: 32 percent

Lobat soils: 26 percent

Abreu soils: 24 percent

Minor soils: 18 percent

Soil Properties and Qualities

- **Nabor**

Landform: mountain slopes

Depth class: very deep

Drainage class: well drained

Parent material: slope alluvium derived from shale

Textural class: fine

- **Lobat**

Landform: mountain slopes

Depth class: very deep

Drainage class: well drained

Parent material: colluvium derived from igneous material

Textural class: moderately fine

- **Abreu**

Landform: mountain slopes

Depth class: deep

Drainage class: well drained

Parent material: colluvium derived from igneous material

Textural class: moderately fine

- **Minor soils**

Yata: moderately deep, fine textured soils on mountain slopes

Eody: medium textured soils on mountain slopes

Bracos: medium textured soils on mountain slopes

Rock outcrop

Major Uses

Wood products and wildlife habitat

Cold, Subhumid Soils on High Mountains and Valleys

This group makes up about 7 percent of the survey area. The soils in this group are nearly level to very steep. They are fine textured and are poorly drained to well drained. The risk of flooding ranges from none to occasional periods of flooding. This group is used for wood products, wildlife habitat, and rangeland.

16. Ess-Croftshaw-Crubas

Cold and moist, very deep, well drained and poorly drained, nearly level to moderately steep, medium to fine textured soils on mountain slopes and stream terraces.

Setting

Slope: 0 to 20 percent

Elevation: 9,500 to 11,400 feet

Mean annual precipitation: 28 to 35 inches

Mean annual air temperature: 35 to 40 degrees F.

Frost-free period: 50 to 70 days

Composition

Extent within the survey area: 3 percent

Extent of the soils in the map unit:

Ess soils: 31 percent

Croftshaw soils: 29 percent

Crubas soils: 22 percent

Minor soils: 18 percent

Soil Properties and Qualities

- **Ess**

Landform: mountain slopes

Depth class: very deep

Drainage class: well drained

Parent material: slope alluvium and colluvium derived from igneous material

Textural class: medium

- **Croftshaw**

Landform: mountain slopes and stream terraces

Depth class: very deep

Drainage class: well drained

Parent material: colluvium derived from igneous material

Textural class: moderately fine

- **Crubas**

Landform: stream terraces and swales

Depth class: very deep

Drainage class: poorly drained

Parent material: stream alluvium derived from igneous material

Textural class: fine

- **Minor soils**

Bywell: medium textured soils on stream terraces

Gromes: medium textured soils on mountain slopes

Rock outcrop

Major Uses

Wildlife habitat and rangeland

17. Angostura-Saragote

Cold and moist, very deep, somewhat poorly drained to well drained, gently sloping to steep, medium to fine textured soils on mountain slopes.

Setting

Slope: 2 to 45 percent

Elevation: 9,200 to 11,400 feet

Mean annual precipitation: 28 to 35 inches

Mean annual air temperature: 35 to 40 degrees F.

Frost-free period: 50 to 70 days

Composition

Extent within the survey area: 4 percent

Extent of the soils in the map unit:

Angostura soils: 52 percent

Saragote soils: 30 percent

Minor soils: 18 percent

Soil Properties and Qualities

- **Angostura**

Landform: mountain slopes

Depth class: very deep

Drainage class: well drained

Parent material: slope alluvium and colluvium derived from mixed igneous material

Textural class: medium

- **Saragote**

Landform: mountain slopes

Depth class: very deep

Drainage class: somewhat poorly drained

Parent material: slope alluvium derived from igneous material

Textural class: fine

- **Minor soils**

Ess: medium textured soils on mountain slopes

Gromes: medium textured soils on mountain slopes

Crubas: fine textured soils on mountain slopes

Rock outcrop

Major Uses

Wood products and wildlife habitat

Detailed Soil Map Units

The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The contrasting components are mentioned in the map unit descriptions. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown

on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Sparham clay loam is a phase of the Sparham series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Walrees-Abiquiu complex, 0 to 2 percent slopes is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Berryman-Ruson association, 1 to 8 percent slopes is an example.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Riverwash is an example.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The *Glossary* defines many of the terms used in describing the soils or miscellaneous areas.

9—Pinavetes-Florita complex, 2 to 10 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,000 to 6,900 feet (1,829 to 2,103 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Pinavetes and similar soils: 50 percent

Florita and similar soils: 40 percent

Minor components: 10 percent

Component Descriptions

Pinavetes soils

Landscape: Uplands

Landform: Dunes

Parent material: Eolian deposits derived from sandstone

Slope: 2 to 10 percent

Depth class: Very deep

Drainage class: Excessively drained

Slowest permeability: 6.0 to 20 in/hr (rapid)

Available water capacity: About 3.6 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 3 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Sandy

Potential native vegetation: Indian ricegrass, western wheatgrass, galleta, blue grama, bluestem, oneseed juniper, sand sagebrush, twoneedle pinyon

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 3 inches; loamy sand

C—3 to 60 inches; loamy sand

Florita soils

Landscape: Uplands

Landform: Hills

Parent material: Eolian deposits over slope alluvium derived from sandstone

Slope: 2 to 6 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 6.9 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very low

Calcium carbonate average in horizon of maximum accumulation: About 3 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 7
(slightly sodic)

Ecological site: Loamy

Potential native vegetation: western wheatgrass, galleta, Indian ricegrass, needleandthread, big sagebrush, blue grama, muttongrass

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 2 inches; sandy loam

C1—2 to 6 inches; sandy loam

C2—6 to 24 inches; coarse sandy loam

C3 and C4—24 to 60 inches; sandy loam

Minor Components

San Mateo and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Salty Bottomland

Sparank and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Salty Bottomland

10—Sparank-San Mateo silt loams, saline, sodic, 0 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,000 to 6,900 feet (1,829 to 2,103 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Sparank and similar soils: 55 percent

San Mateo and similar soils: 30 percent

Minor components: 15 percent

Component Descriptions

Sparank soils

Landscape: Valleys

Landform: Flood plains

Parent material: Stream alluvium derived from sandstone and shale

Slope: 0 to 3 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .001 to .06 in/hr (very slow)

Available water capacity: About 6.5 inches (moderate)

Shrink-swell potential: About 7.5 percent (high)

Flooding hazard: Rare

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 10 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 6 mmhos/cm (slightly saline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 22 (moderately sodic)

Ecological site: Salty Bottomland

Potential native vegetation: alkali sacaton, western wheatgrass, bottlebrush squirreltail, galleta, fourwing saltbush, greasewood

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 2 inches; silt loam

2Cn—2 to 60 inches; clay

San Mateo soils

Landscape: Valleys

Landform: Flood plains

Parent material: Stream alluvium derived from sandstone and shale

Slope: 0 to 3 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 9.0 inches (moderate)

Shrink-swell potential: About 4.5 percent (moderate)

Flooding hazard: Rare

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 10 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 6 mmhos/cm (slightly saline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 22 (moderately sodic)

Ecological site: Salty Bottomland

Potential native vegetation: alkali sacaton, western wheatgrass, bottlebrush squirreltail, galleta, fourwing saltbush, greasewood

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 2 inches; silt loam

C—2 to 60 inches; stratified sandy loam to clay loam

Minor Components

Florita and similar soils

Composition: About 10 percent

Slope: 2 to 6 percent

Drainage class: Well drained

Ecological site: Loamy

Pinavetes and similar soils

Composition: About 5 percent

Slope: 3 to 12 percent

Drainage class: Excessively drained

Ecological site: Sandy Slopes

11—Fruitland sandy loam, 0 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,500 to 6,000 feet (1,676 to 1,829 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 50 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Fruitland and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Fruitland soils

Landscape: Uplands

Landform: Alluvial fans, stream terraces

Parent material: Stream alluvium derived from sandstone and/or fan alluvium derived from sandstone

Slope: 0 to 3 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 7.1 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very low

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 2 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 1
(slightly sodic)

Ecological site: Sandy

Potential native vegetation: blue grama, western wheatgrass, Indian ricegrass,
bottlebrush squirreltail, dropseed, needleandthread

Land capability subclass (irrigated): 2e

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 2 inches; sandy loam

C—2 to 60 inches; sandy loam

Minor Components

Jocity and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Well drained

Ecological site: Loamy

Pinavetes and similar soils

Composition: About 5 percent

Slope: 3 to 12 percent

Drainage class: Excessively drained

Ecological site: Sandy Slopes

Werlog and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Flooding hazard: Rare

Ecological site: Salty Bottomland

12—Pinavetes loamy sand, 0 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,600 to 6,000 feet (1,707 to 1,829 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Pinavetes and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Pinavetes soils

Landscape: Uplands

Landform: Dunes

Parent material: Eolian deposits derived from sandstone

Slope: 0 to 3 percent

Depth class: Very deep

Drainage class: Excessively drained

Slowest permeability: 6.0 to 20 in/hr (rapid)

Available water capacity: About 3.6 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very low

Calcium carbonate average in horizon of maximum accumulation: About 3 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Deep Sand

Potential native vegetation: Indian ricegrass, blue grama, sand sagebrush

Land capability subclass (irrigated): 3s

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 4 inches; loamy sand

C—4 to 60 inches; loamy sand

Minor Components

Fruitland and similar soils

Composition: About 10 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Sandy

Gilco and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Ecological site: Loamy

18—Abiquiu-Peralta complex, 0 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,500 to 6,100 feet (1,676 to 1,859 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 50 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Abiquiu and similar soils: 50 percent

Peralta and similar soils: 40 percent

Minor components: 10 percent

Component Descriptions

Abiquiu soils

Landscape: Valleys

Landform: Flood plains

Parent material: Stream alluvium derived from sandstone

Slope: 0 to 3 percent

Depth class: Very deep

Drainage class: Somewhat poorly drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 2.2 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Occasional

Seasonal high water table depth: About 24 to 48 inches

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Populus fremontii/Salix exigua-Salix/Carex

Potential native vegetation:

Common trees: Rio Grande cottonwood

Other plants: willow, stretchberry, western wheatgrass, Brickellia, Woods rose,
alkali sacaton, bottlebrush squirreltail, fourwing saltbush, inland saltgrass,
mule's fat, sedge

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 4 inches; silt loam

C1—4 to 8 inches; fine sandy loam

C2 to C4—8 to 60 inches; stratified extremely cobbly extremely gravelly coarse
sand to extremely gravelly sand

Peralta soils

Landscape: Valleys

Landform: Flood plains

Parent material: Stream alluvium derived from sandstone

Slope: 0 to 3 percent

Depth class: Very deep

Drainage class: Somewhat poorly drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 5.8 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Occasional

Seasonal high water table depth: About 24 to 36 inches

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 8 mmhos/cm (slightly saline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 6 (slightly sodic)

Ecological site: Populus fremontii/Salix exigua-Salix/Carex

Potential native vegetation:

Common trees: Rio Grande cottonwood

Other plants: giant sacaton, alkali sacaton, willow, fourwing saltbush

Land capability subclass (nonirrigated): 7c

Typical Profile:

A—0 to 18 inches; loamy fine sand

C—18 to 65 inches; stratified loamy sand to clay loam

Minor Components

Sparham and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Salt Meadow

Walrees and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Depth to restrictive feature: 14 to 60 inches to strongly contrasting textural stratification

Drainage class: Somewhat poorly drained

Flooding hazard: Occasional

Ecological site: Populus fremontii/Salix exigua-Salix/Carex

20—Menefee-Vessilla-Rock outcrop complex, 5 to 35 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,900 to 7,600 feet (2,103 to 2,316 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Menefee and similar soils: 35 percent

Vessilla and similar soils: 30 percent

Rock outcrop: 15 percent

Minor components: 20 percent

Component Descriptions

Menefee soils

Landscape: Uplands

Landform: Hills

Parent material: Colluvium derived from shale over residuum

Slope: 5 to 35 percent

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock, paralithic

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 1.9 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Very high

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 3
(slightly sodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, galleta, Gambel oak, big sagebrush, sideoats grama

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 3 inches; loam

C—3 to 10 inches; clay loam

Cr—10 to 60 inches; bedrock

Vessilla soils

Landscape: Uplands

Landform: Summit mesas, hills

Parent material: Residium weathered from sandstone and/or slope alluvium derived from sandstone

Slope: 5 to 35 percent

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock, lithic

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 1.3 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: mountain big sagebrush, oak, oneseed juniper, twoneedle pinyon,

Indian ricegrass, Rocky Mountain juniper

Land capability subclass (nonirrigated): 7s

Typical Profile:

- A—0 to 2 inches; sandy loam
- C—2 to 10 inches; sandy loam
- R—10 to 60 inches; bedrock

Rock outcrop

Depth to restrictive feature: 0 inches to bedrock, lithic

Minor Components

Lindrith and similar soils

- Composition:* About 10 percent
- Slope:* 2 to 7 percent
- Drainage class:* Well drained
- Ecological site:* Loamy

Nalivag and similar soils

- Composition:* About 5 percent
- Slope:* 2 to 8 percent
- Drainage class:* Well drained
- Ecological site:* Loamy

Orlie and similar soils

- Composition:* About 5 percent
- Slope:* 1 to 8 percent
- Drainage class:* Well drained
- Ecological site:* Loamy

21—Werlog clay loam, 0 to 1 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,500 to 6,000 feet (1,676 to 1,829 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 50 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Werlog and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Werlog soils**

Landscape: Valleys

Landform: Flood plains

Parent material: Alluvium derived from igneous rock

Slope: 0 to 1 percent

Depth class: Very deep

Drainage class: Somewhat poorly drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 9.6 inches (high)

Shrink-swell potential: About 4.3 percent (moderate)

Flooding hazard: Rare

Seasonal high water table depth: About 24 to 42 inches

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 2 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 3 mmhos/cm (very slightly saline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Salty Bottomland

Potential native vegetation: alkali sacaton, fourwing saltbush, galleta, greasewood, shadscale saltbush, big sagebrush, inland saltgrass, western wheatgrass

Land capability subclass (irrigated): 3w

Land capability subclass (nonirrigated): 6w

Typical Profile:

A—0 to 6 inches; clay loam

C1 to C4—6 to 55 inches; stratified fine sandy loam to clay loam

C5—55 to 60 inches; stratified sand to cobbly sand

Minor Components

Werlog and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Flooding hazard: Rare

Ecological site: Salty Bottomland

Abiquiu and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Somewhat poorly drained

Flooding hazard: Occasional

Ecological site: Populus fremontii/Salix exigua-Salix/Carex

Peralta and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Somewhat poorly drained

Flooding hazard: Occasional

Ecological site: Populus fremontii/Salix exigua-Salix/Carex

22—Jocity-Gilco complex, 1 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,500 to 6,100 feet (1,676 to 1,859 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 50 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Jocity and similar soils: 50 percent

Gilco and similar soils: 35 percent

Minor components: 15 percent



Figure 3.—Typical landscape of Jocity-Gilco complex, 1 to 3 percent slopes. This unit can be used for irrigated pasture.

Component Descriptions

Jocity soils

Landscape: Valleys

Landform: Alluvial fans

Parent material: Fan alluvium derived from igneous and sedimentary rock

Slope: 1 to 3 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 8.0 inches (moderate)

Shrink-swell potential: About 2.5 percent (low)

Runoff class: Very low

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: About 2 percent

Salinity average in horizon of maximum accumulation: About 2 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 2
(slightly sodic)

Ecological site: Loamy

Potential native vegetation: blue grama, galleta, big sagebrush, western wheatgrass,
bottlebrush squirreltail

Land capability subclass (irrigated): 2e

Land capability subclass (nonirrigated): 7e

Typical Profile:

- A—0 to 11 inches; sandy loam
- C1—11 to 22 inches; fine sandy loam
- C2—22 to 41 inches; clay loam
- C3—41 to 60 inches; sandy loam

Gilco soils*Landscape:* Valleys*Landform:* Alluvial fans*Parent material:* Fan alluvium derived from igneous and sedimentary rock*Slope:* 1 to 3 percent*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* 0.6 to 2.0 in/hr (moderate)*Available water capacity:* About 8.2 inches (moderate)*Shrink-swell potential:* About 1.5 percent (low)*Runoff class:* Low*Calcium carbonate average in horizon of maximum accumulation:* About 8 percent*Gypsum average in horizon of maximum accumulation:* None*Salinity average in horizon of maximum accumulation:* About 2 mmhos/cm
(nonsaline)*Sodium adsorption ratio average in horizon of maximum accumulation:* About 1
(slightly sodic)*Ecological site:* Loamy*Potential native vegetation:* blue grama, western wheatgrass, spike muhly, fourwing
saltbush, galleta, sand dropseed*Land capability subclass (irrigated):* 3e*Land capability subclass (nonirrigated):* 7c*Typical Profile:*

- A—0 to 12 inches; loamy sand
- C1—12 to 50 inches; stratified loamy sand to sandy loam
- C2—50 to 60 inches; stratified loamy sand to loam

Minor Components

Alcalde and similar soils

Composition: About 5 percent*Slope:* 0 to 3 percent*Drainage class:* Well drained*Flooding hazard:* Rare*Ecological site:* Clayey

Walrees and similar soils

Composition: About 5 percent*Slope:* 0 to 2 percent*Depth to restrictive feature:* 14 to 60 inches to strongly contrasting textural
stratification*Drainage class:* Somewhat poorly drained*Flooding hazard:* Occasional*Ecological site:* Populus fremontii/Salix exigua-Salix/Carex

Werlog and similar soils

Composition: About 5 percent*Slope:* 0 to 1 percent*Drainage class:* Somewhat poorly drained

Flooding hazard: Rare
Ecological site: Salty Bottomland

23—Gilco sandy clay loam, 0 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 36
Elevation: 5,500 to 6,100 feet (1,676 to 1,859 meters)
Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)
Mean annual air temperature: 50 to 52 degrees F. (10.0 to 11.1 degrees C.)
Frost-free period: 140 to 160 days

Map Unit Composition

Gilco and similar soils: 85 percent
 Minor components: 15 percent

Component Descriptions

Gilco soils

Landscape: Valleys
Landform: Alluvial fans
Parent material: Fan alluvium derived from igneous and sedimentary rock
Slope: 0 to 3 percent
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)
Available water capacity: About 9.3 inches (high)
Shrink-swell potential: About 1.5 percent (low)
Runoff class: Low
Calcium carbonate average in horizon of maximum accumulation: About 8 percent
Gypsum average in horizon of maximum accumulation: None
Salinity average in horizon of maximum accumulation: About 2 mmhos/cm (nonsaline)
Sodium adsorption ratio average in horizon of maximum accumulation: About 1 (slightly sodic)
Ecological site: Loamy
Potential native vegetation: blue grama, western wheatgrass, spike muhly, fourwing saltbush, galleta, sand dropseed
Land capability subclass (irrigated): 3e
Land capability subclass (nonirrigated): 7c

Typical Profile:

Ap—0 to 14 inches; sandy clay loam
 C—14 to 60 inches; stratified loamy sand to sandy loam

Minor Components

Alcalde and similar soils
Composition: About 5 percent
Slope: 0 to 3 percent
Drainage class: Well drained
Flooding hazard: Rare
Ecological site: Clayey

Jocity and similar soils*Composition:* About 5 percent*Slope:* 0 to 1 percent*Drainage class:* Well drained*Ecological site:* Loamy**Walrees and similar soils***Composition:* About 5 percent*Slope:* 0 to 2 percent*Depth to restrictive feature:* 14 to 60 inches to strongly contrasting textural stratification*Drainage class:* Somewhat poorly drained*Flooding hazard:* Occasional*Ecological site:* Populus fremontii/Salix exigua-Salix/Carex**24—Jocity sandy clay loam, 0 to 1 percent slopes****Map Unit Setting***Major Land Resource Area:* 36*Elevation:* 5,500 to 6,100 feet (1,676 to 1,859 meters)*Mean annual precipitation:* 8 to 10 inches (203 to 254 millimeters)*Mean annual air temperature:* 50 to 52 degrees F. (10.0 to 11.1 degrees C.)*Frost-free period:* 140 to 160 days**Map Unit Composition**

Jocity and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Jocity soils***Landscape:* Valleys*Landform:* Alluvial fans*Parent material:* Fan alluvium derived from igneous and sedimentary rock*Slope:* 0 to 1 percent*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* 0.2 to 0.6 in/hr (moderately slow)*Available water capacity:* About 8.4 inches (moderate)*Shrink-swell potential:* About 2.9 percent (low)*Runoff class:* Low*Calcium carbonate average in horizon of maximum accumulation:* About 8 percent*Gypsum average in horizon of maximum accumulation:* About 2 percent*Salinity average in horizon of maximum accumulation:* About 2 mmhos/cm (nonsaline)*Sodium adsorption ratio average in horizon of maximum accumulation:* About 2 (slightly sodic)*Ecological site:* Loamy*Potential native vegetation:* blue grama, galleta, big sagebrush, western wheatgrass, bottlebrush squirreltail*Land capability subclass (irrigated):* 1*Land capability subclass (nonirrigated):* 7c

Typical Profile:

Ap—0 to 14 inches; sandy clay loam
 C1—14 to 33 inches; fine sandy loam
 C2—33 to 60 inches; clay loam

Minor Components

Fruitland and similar soils

Composition: About 5 percent
Slope: 1 to 5 percent
Drainage class: Well drained
Ecological site: Sandy

Gilco and similar soils

Composition: About 5 percent
Slope: 0 to 3 percent
Drainage class: Well drained
Ecological site: Loamy

Walrees and similar soils

Composition: About 5 percent
Slope: 0 to 2 percent
Depth to restrictive feature: 14 to 60 inches to strongly contrasting textural stratification
Drainage class: Somewhat poorly drained
Flooding hazard: Occasional
Ecological site: Populus fremontii/Salix exigua-Salix/Carex

30—San Mateo sandy loam, 0 to 3 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 6,000 to 6,900 feet (1,829 to 2,103 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

San Mateo and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**San Mateo soils**

Landscape: Valleys

Landform: Flood plains

Parent material: Stream alluvium derived from sandstone and shale

Slope: 0 to 3 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 8.8 inches (moderate)

Shrink-swell potential: About 4.5 percent (moderate)

Flooding hazard: Rare

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 10 percent

Gypsum average in horizon of maximum accumulation: About 1 percent

Salinity average in horizon of maximum accumulation: About 6 mmhos/cm (slightly saline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 22 (moderately sodic)

Ecological site: Salty Bottomland

Potential native vegetation: alkali sacaton, western wheatgrass, bottlebrush squirreltail, galleta, fourwing saltbush, greasewood

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 3 inches; sandy loam

C—3 to 60 inches; stratified sandy loam to clay loam

Minor Components

Gobernador and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Drainage class: Well drained

Ecological site: Salty Bottomland

Orlie and similar soils

Composition: About 5 percent

Slope: 1 to 8 percent

Drainage class: Well drained

Ecological site: Loamy

Vessilla and similar soils

Composition: About 5 percent

Slope: 1 to 30 percent

Depth to restrictive feature: 10 to 20 inches to bedrock, lithic

Drainage class: Well drained

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

31—Gobernador-Orlie association, 0 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,000 to 7,400 feet (1,829 to 2,256 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Gobernador and similar soils: 50 percent

Orlie and similar soils: 40 percent

Minor components: 10 percent



Figure 4.—Typical landscape of Gobernador-Orlie association, 0 to 8 percent slopes.

Component Descriptions

Gobernador soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from sandstone and shale

Slope: 0 to 2 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 4.8 inches (low)

Shrink-swell potential: About 7.5 percent (high)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 3 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 12 mmhos/cm
(moderately saline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 29
(moderately sodic)

Ecological site: Salty Bottomland

Potential native vegetation: alkali sacaton, western wheatgrass, bottlebrush
squirreltail, galleta, fourwing saltbush, greasewood

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 2 inches; silty clay loam

C—2 to 60 inches; clay

Orlie soils*Landscape:* Uplands*Landform:* Fan remnants*Parent material:* Fan alluvium derived from sandstone and shale*Slope:* 2 to 8 percent*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* 0.2 to 0.6 in/hr (moderately slow)*Available water capacity:* About 11.2 inches (high)*Shrink-swell potential:* About 4.5 percent (moderate)*Runoff class:* Medium*Calcium carbonate average in horizon of maximum accumulation:* About 8 percent*Gypsum average in horizon of maximum accumulation:* None*Salinity average in horizon of maximum accumulation:* About 2 mmhos/cm
(nonsaline)*Sodium adsorption ratio average in horizon of maximum accumulation:* None
(nonsodic)*Ecological site:* Loamy*Potential native vegetation:* western wheatgrass, big sagebrush, galleta, Indian
ricegrass, needleandthread, fourwing saltbush*Land capability subclass (nonirrigated):* 6c*Typical Profile:*

A—0 to 3 inches; loam

Bt—3 to 35 inches; clay loam

Btk and Bk—35 to 60 inches; clay loam

Minor Components

Lindrith and similar soils

Composition: About 5 percent*Slope:* 2 to 7 percent*Drainage class:* Well drained*Ecological site:* Loamy

San Mateo and similar soils

Composition: About 5 percent*Slope:* 0 to 3 percent*Drainage class:* Well drained*Flooding hazard:* Rare*Ecological site:* Salty Bottomland**34—Alcalde clay, 0 to 3 percent slopes****Map Unit Setting***Major Land Resource Area:* 36*Elevation:* 5,500 to 6,100 feet (1,676 to 1,859 meters)*Mean annual precipitation:* 8 to 10 inches (203 to 254 millimeters)*Mean annual air temperature:* 50 to 52 degrees F. (10.0 to 11.1 degrees C.)*Frost-free period:* 140 to 160 days**Map Unit Composition**

Alcalde and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Alcalde soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from shale

Slope: 0 to 3 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .001 to .06 in/hr (very slow)

Available water capacity: About 4.7 inches (low)

Shrink-swell potential: About 7.5 percent (high)

Flooding hazard: Rare

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 12 mmhos/cm
(moderately saline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 9
(slightly sodic)

Ecological site: Clayey

Potential native vegetation: galleta, western wheatgrass, alkali sacaton, blue grama,
fourwing saltbush, Indian ricegrass, big sagebrush, bottlebrush squirreltail

Land capability subclass (irrigated): 4s

Land capability subclass (nonirrigated): 6s

Typical Profile:

A—0 to 3 inches; clay

Bk—3 to 60 inches; clay

Minor Components

Gilco and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Ecological site: Loamy

Jocity and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Well drained

Ecological site: Loamy

Werlog and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Flooding hazard: Rare

Ecological site: Salty Bottomland

39—Fruitland sandy loam, 3 to 5 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,500 to 6,600 feet (1,676 to 2,012 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 50 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Fruitland and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Fruitland soils

Landscape: Valleys

Landform: Alluvial fans, stream terraces

Parent material: Fan alluvium and/or stream alluvium derived from sandstone

Slope: 3 to 5 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 6.5 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very low

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 2 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 1
(slightly sodic)

Ecological site: Sandy

Potential native vegetation: blue grama, western wheatgrass, bottlebrush squirreltail,
dropseed, needleandthread

Land capability subclass (irrigated): 3e

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 7 inches; sandy loam

C1—7 to 41 inches; sandy loam

C2—41 to 60 inches; gravelly sandy loam

Minor Components

Pinavetes and similar soils

Composition: About 10 percent

Slope: 3 to 12 percent

Drainage class: Excessively drained

Ecological site: Sandy Slopes

Jocity and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Well drained

Ecological site: Loamy

40—Pinitos-Menefee-Vessilla complex, 2 to 20 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,700 to 7,800 feet (2,042 to 2,377 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Pinitos and similar soils: 40 percent

Menefee and similar soils: 20 percent

Vessilla and similar soils: 20 percent

Minor components: 20 percent

Component Descriptions

Pinitos soils

Landscape: Uplands

Landform: Hills

Parent material: Slope alluvium derived from sandstone and shale

Slope: 2 to 10 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 9.2 inches (high)

Shrink-swell potential: About 2.8 percent (low)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Loamy

Potential native vegetation: western wheatgrass, New Mexico Feathergrass, blue grama, bottlebrush squirreltail, muttongrass, pinyon ricegrass

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 4 inches; fine sandy loam

Bt1 and Bt2—4 to 28 inches; sandy clay loam

C1 and C2—28 to 60 inches; sandy clay loam

Menefee soils

Landscape: Uplands

Landform: Hills

Parent material: Colluvium over residuum weathered from sandstone and shale

Slope: 5 to 20 percent

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock, paralithic

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 2.0 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 3
(slightly sodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, galleta, Gambel oak, big sagebrush, sideoats grama

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 2 inches; clay loam

C—2 to 10 inches; clay loam

Cr—10 to 60 inches; bedrock

Vessilla soils

Landscape: Uplands

Landform: Hills

Parent material: Slope alluvium over residuum weathered from sandstone

Slope: 5 to 20 percent

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock, lithic

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 1.4 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 1
(slightly sodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, galleta, Indian ricegrass, mountain big sagebrush, oak, sideoats grama

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 2 inches; fine sandy loam

C—2 to 10 inches; fine sandy loam

R—10 to 60 inches; bedrock

Minor Components

Royosa and similar soils

Composition: About 10 percent

Slope: 2 to 7 percent

Drainage class: Somewhat excessively drained

Ecological site: Sandy

Lindrith and similar soils

Composition: About 5 percent

Slope: 2 to 7 percent

Drainage class: Well drained

Ecological site: Loamy

Nalivag and similar soils

Composition: About 5 percent

Slope: 2 to 8 percent

Drainage class: Well drained

Ecological site: Loamy

42—Walrees-Abiquiu complex, 0 to 2 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 5,500 to 6,000 feet (1,676 to 1,829 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 50 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Walrees and similar soils: 45 percent

Abiquiu and similar soils: 40 percent

Minor components: 15 percent

Component Descriptions**Walrees soils**

Landscape: Valleys

Landform: Swales

Parent material: Stream alluvium derived from sandstone and shale

Slope: 0 to 2 percent

Depth class: Very deep

Depth to restrictive feature: 14 to 60 inches to strongly contrasting textural stratification

Drainage class: Somewhat poorly drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 5.6 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Occasional

Seasonal high water table depth: About 24 to 60 inches

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 5 percent

Gypsum average in horizon of maximum accumulation: None



Figure 5.—Typical landscape of Walrees-Abiquiu complex, 0 to 2 percent slopes on flood plains of the Chama River.

Salinity average in horizon of maximum accumulation: About 5 mmhos/cm (slightly saline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 3 (slightly sodic)

Ecological site: *Populus fremontii*/*Salix exigua*-*Salix*/*Carex*

Potential native vegetation:

Common trees: Rio Grande cottonwood

Other plants: western wheatgrass, alkali sacaton, obtuse panicgrass, fourwing saltbush, rubber rabbitbrush

Land capability subclass (nonirrigated): 6w

Typical Profile:

A—0 to 4 inches; clay loam

C1—4 to 23 inches; silty clay loam

2C—23 to 60 inches; stratified gravelly sand to cobbly sand

Abiquiu soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from sandstone

Slope: 0 to 2 percent

Depth class: Very deep

Drainage class: Somewhat poorly drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 2.7 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Occasional

Seasonal high water table depth: About 24 to 48 inches

Runoff class: Very low

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Populus fremontii/Salix exigua-Salix/Carex

Potential native vegetation:

Common trees: Rio Grande cottonwood

Other plants: willow, stretchberry, western wheatgrass, Anderson wolfberry,
Brickellia, Woods rose, alkali sacaton, bottlebrush squirreltail, fourwing
saltbush, inland saltgrass, mule's fat, sedge

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; fine sandy loam

C1—3 to 17 inches; loamy sand

C2—17 to 60 inches; stratified extremely cobbly coarse sand to extremely
gravelly sand

Minor Components

Jocity and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Well drained

Ecological site: Loamy

Peralta and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Somewhat poorly drained

Flooding hazard: Occasional

Ecological site: Populus fremontii/Salix exigua-Salix/Carex

Walrees and similar soils

Composition: About 3 percent

Slope: 0 to 2 percent

Drainage class: Poorly drained

Flooding hazard: Frequent

Ecological site: Populus fremontii/Salix exigua-Salix/Carex

Werlog and similar soils

Composition: About 2 percent

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Flooding hazard: Rare

Ecological site: Salty Bottomland

50—Stout-Kunz sandy loams, 5 to 15 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,300 to 7,900 feet (2,225 to 2,408 meters)

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Stout and similar soils: 45 percent

Kunz and similar soils: 40 percent

Minor components: 15 percent

Component Descriptions

Stout soils

Landscape: Uplands

Landform: Hills

Parent material: Slope alluvium over residuum weathered from sandstone

Slope: 5 to 15 percent

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock, lithic

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 2.4 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pinus ponderosa/Festuca arizonica-Danthonia parryi

Potential native vegetation:

Common trees: ponderosa pine

Other plants: Arizona fescue, mountain muhly, muttongrass, prairie Junegrass,
sedge

Land capability subclass (nonirrigated): 7s

Typical Profile:

O—0 to 2 inches; slightly decomposed plant material

A—2 to 5 inches; sandy loam

C—5 to 14 inches; sandy loam

R—14 to 60 inches; bedrock

Kunz soils

Landscape: Uplands

Landform: Hills

Parent material: Slope alluvium derived from sandstone and shale

Slope: 5 to 15 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 9.3 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 3 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Mountain Grassland

Potential native vegetation:

Common trees: ponderosa pine, Rocky Mountain juniper, two-needle pinyon

Other plants: Arizona fescue, Gambel oak, Indian ricegrass, mountain muhly,
bottlebrush squirreltail, little bluestem, muttongrass, prairie junegrass

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 3 inches; sandy loam

Bt and C—3 to 60 inches; sandy clay loam

Minor Components

Menefee and similar soils

Composition: About 10 percent

Slope: 8 to 25 percent

Depth to restrictive feature: 10 to 20 inches to bedrock, paralithic

Drainage class: Well drained

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua
gracilis

Badland

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock, paralithic

54—Capillo silt loam, 0 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,500 to 8,500 feet (2,286 to 2,591 meters)

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Capillo and similar soils: 90 percent

Minor components: 10 percent

Component Descriptions

Capillo soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from shale

Slope: 0 to 8 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 10.4 inches (high)

Shrink-swell potential: About 6.7 percent (high)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: None mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Mountain Valley

Potential native vegetation: Gambel oak, common snowberry, muttongrass, mountain
muhly, sedge

Land capability subclass (irrigated): 2c

Land capability subclass (nonirrigated): 4c

Typical Profile:

A—0 to 4 inches; silt loam

BA—4 to 11 inches; silt loam

Bt1—11 to 16 inches; clay

Bt2,Bt3,C—16 to 60 inches; clay

Minor Components

Nusmag and similar soils

Composition: About 9 percent

Slope: 0 to 3 percent

Drainage class: Moderately well drained

Ecological site: Mountain Meadow

Tottles and similar soils

Composition: About 1 percent

Slope: 0 to 2 percent

Drainage class: Poorly drained

Ecological site: Mountain Meadow

60—Sparham clay loam, 0 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,500 to 6,000 feet (1,676 to 1,829 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Sparham and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Sparham soils

Landscape: Valleys

Landform: Flood plains

Parent material: Stream alluvium derived from shale

Slope: 0 to 3 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .001 to .06 in/hr (very slow)

Available water capacity: About 9.0 inches (high)

Shrink-swell potential: About 6.9 percent (high)

Flooding hazard: Rare

Seasonal high water table depth: About 48 to 60 inches

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 10 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 6 mmhos/cm (slightly saline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 9 (slightly sodic)

Ecological site: Clayey Bottomland

Potential native vegetation: western wheatgrass, alkali sacaton, blue grama, fourwing saltbush, galleta

Land capability subclass (irrigated): 3e

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 4 inches; clay loam

C1—4 to 41 inches; clay

C2—41 to 54 inches; sandy clay

C3—54 to 60 inches; sandy loam

Minor Components

Alcalde and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Clayey

Walrees and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Depth to restrictive feature: 14 to 60 inches to strongly contrasting textural stratification

Drainage class: Somewhat poorly drained

Flooding hazard: Occasional

Ecological site: Populus fremontii/Salix exigua-Salix/Carex

Werlog and similar soils

Composition: About 5 percent

Slope: 0 to 1 percent

Drainage class: Somewhat poorly drained

Flooding hazard: Rare

Ecological site: Salty Bottomland

61—Colomex gravelly silt loam, 0 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,500 to 8,200 feet (2,286 to 2,499 meters)

Mean annual precipitation: 18 to 25 inches (457 to 635 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Colomex and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Colomex soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from igneous rock

Slope: 0 to 3 percent

Surface fragments: About 24 percent gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 4.6 inches (low)



Figure 6.—Typical landscape of Colomex gravelly silt loam, 0 to 3 percent slopes, on a stream terrace along the Chama River.

Shrink-swell potential: About 2.7 percent (low)

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pinus ponderosa/Festuca arizonica-Danthonia parryi

Potential native vegetation:

Common trees: ponderosa pine

Other plants: Arizona fescue, mountain muhly, muttongrass, prairie Junegrass,
sedge

Land capability subclass (irrigated): 4c

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 6 inches; gravelly silt loam

2Bt1—6 to 12 inches; gravelly sandy clay loam

2Bt2—12 to 34 inches; extremely cobbly sandy clay loam

3Bt3—34 to 60 inches; very gravelly loamy sand

Minor Components

Doslomas and similar soils

Composition: About 10 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Ecological site: Mountain Loam

Dula and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Drainage class: Poorly drained

Flooding hazard: Frequent

Ecological site: Mountain Meadow

64—Dula loam, 0 to 2 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,000 to 8,000 feet (2,134 to 2,438 meters)

Mean annual precipitation: 18 to 25 inches (457 to 635 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Dula and similar soils: 90 percent

Minor components: 10 percent

Component Descriptions

Dula soils

Landscape: Valleys

Landform: Flood plains

Parent material: Stream alluvium derived from sandstone and shale

Slope: 0 to 2 percent

Depth class: Very deep

Drainage class: Poorly drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 5.4 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Frequent

Seasonal high water table depth: About 12 to 20 inches

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Mountain Meadow

Potential native vegetation: tufted hairgrass, sedge, bulrush, mountain brome, western wheatgrass, clover, red fescue, shrubby cinquefoil

Land capability subclass (irrigated): 4w

Land capability subclass (nonirrigated): 6w

Typical Profile:

A—0 to 11 inches; loam

Bg—11 to 28 inches; loam

2C—28 to 60 inches; extremely gravelly coarse sand

Minor Components

Colomex and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Ecological site: Pinus ponderosa/Festuca arizonica-Danthonia parryi

Doslomas and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Ecological site: Mountain Loam

65—Doslomas loam, 0 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,000 to 8,000 feet (2,134 to 2,438 meters)

Mean annual precipitation: 18 to 25 inches (457 to 635 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Doslomas and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Doslomas soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from sandstone and shale

Slope: 0 to 3 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 5.6 inches (low)

Shrink-swell potential: About 2.6 percent (low)

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Mountain Loam

Potential native vegetation: Arizona fescue, bluegrass, western wheatgrass, needlegrass, bottlebrush squirreltail, muhly, spike muhly

Land capability subclass (irrigated): 3c

Land capability subclass (nonirrigated): 4c

Typical Profile:

A—0 to 7 inches; loam

Bt—7 to 28 inches; clay loam

2C—28 to 60 inches; extremely cobbly coarse sand

Minor Components

Colomex and similar soils

Composition: About 10 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Ecological site: Pinus ponderosa/Festuca arizonica-Danthonia parryi

Encicado and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Occasional

Ecological site: Mountain Valley

66—Encicado silty clay loam, 0 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,000 to 8,000 feet (2,134 to 2,438 meters)

Mean annual precipitation: 18 to 25 inches (457 to 635 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Encicado and similar soils: 90 percent

Minor components: 10 percent

Component Descriptions

Encicado soils

Landscape: Valleys

Landform: Swales

Parent material: Stream alluvium derived from shale

Slope: 0 to 3 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 8.4 inches (moderate)

Shrink-swell potential: About 4.5 percent (moderate)

Flooding hazard: Occasional

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: None mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Mountain Valley

Potential native vegetation: spike muhly, Arizona fescue, mountain muhly, western
wheatgrass, prairie junegrass

Land capability subclass (irrigated): 3c

Land capability subclass (nonirrigated): 4c

Typical Profile:

A—0 to 17 inches; silty clay loam

Bt1—17 to 35 inches; silty clay loam

2Bt2—35 to 60 inches; extremely cobbly clay loam

Minor Components

Doslomas and similar soils

Composition: About 9 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Ecological site: Mountain Loam

Tottles and similar soils

Composition: About 1 percent

Slope: 0 to 2 percent

Drainage class: Poorly drained

Ecological site: Mountain Meadow

69—Lindrith-Royosa complex, 2 to 7 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,600 to 7,300 feet (2,012 to 2,225 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Lindrith and similar soils: 50 percent

Royosa and similar soils: 35 percent

Minor components: 15 percent

Component Descriptions

Lindrith soils

Landscape: Uplands

Landform: Alluvial fans

Parent material: Fan alluvium derived from sandstone and shale

Slope: 2 to 7 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 6.9 inches (moderate)

Shrink-swell potential: About 1.9 percent (low)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 13 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 2 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 2
(slightly sodic)

Ecological site: Loamy

Potential native vegetation: western wheatgrass, big sagebrush, galleta, Indian
ricegrass, fourwing saltbush, needleandthread

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 11 inches; silty clay loam

C—11 to 67 inches; stratified loamy sand to sandy loam

Royosa soils

Landscape: Uplands

Landform: Dunes

Parent material: Eolian deposits derived from sandstone

Slope: 2 to 7 percent

Depth class: Very deep

Drainage class: Somewhat excessively drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 4.1 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very low

Calcium carbonate average in horizon of maximum accumulation: About 2 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: None mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Sandy

Potential native vegetation: Indian ricegrass, western wheatgrass, galleta, blue grama, oneseed juniper, rubber rabbitbrush, sandhill muhly, twoneedle pinyon
Land capability subclass (nonirrigated): 6s

Typical Profile:

A—0 to 2 inches; sandy loam
 C—2 to 60 inches; loamy sand

Minor Components

Pinitos and similar soils

Composition: About 5 percent
Slope: 2 to 10 percent
Drainage class: Well drained
Ecological site: Loamy

Sparham and similar soils

Composition: About 5 percent
Slope: 0 to 3 percent
Drainage class: Well drained
Flooding hazard: Rare
Ecological site: Salt Meadow

Vessilla and similar soils

Composition: About 5 percent
Slope: 1 to 30 percent
Depth to restrictive feature: 10 to 20 inches to bedrock, lithic
Drainage class: Well drained
Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

70—Sparham clay loam, saline, sodic, 0 to 3 percent slopes

Map Unit Setting

Major Land Resource Area: 36
Elevation: 6,800 to 7,200 feet (2,073 to 2,195 meters)
Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)
Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)
Frost-free period: 100 to 130 days

Map Unit Composition

Sparham and similar soils: 80 percent
 Minor components: 20 percent

Component Descriptions

Sparham soils

Landscape: Valleys
Landform: Stream terraces, flood plains
Parent material: Stream alluvium derived from shale
Slope: 0 to 3 percent
Depth class: Very deep
Drainage class: Well drained

Slowest permeability: .001 to .06 in/hr (very slow)

Available water capacity: About 5.3 inches (low)

Shrink-swell potential: About 7.5 percent (high)

Flooding hazard: Rare

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 10 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 12 mmhos/cm
(moderately saline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 22
(moderately sodic)

Ecological site: Salt Meadow

Potential native vegetation: inland saltgrass, sand dropseed, alkali sacaton, fourwing
saltbush, greasewood

Land capability subclass (irrigated): 4s

Land capability subclass (nonirrigated): 6s

Typical Profile:

A—0 to 2 inches; clay loam

C1 and C2—2 to 35 inches; clay loam

C3—35 to 60 inches; clay

Minor Components

Royosa and similar soils

Composition: About 10 percent

Slope: 2 to 7 percent

Drainage class: Somewhat excessively drained

Ecological site: Sandy

Lindrith and similar soils

Composition: About 5 percent

Slope: 2 to 7 percent

Drainage class: Well drained

Ecological site: Loamy

Nalivag and similar soils

Composition: About 5 percent

Slope: 2 to 8 percent

Drainage class: Well drained

Ecological site: Loamy

80—Orlie-Nalivag loams, 2 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,900 to 7,400 feet (2,103 to 2,256 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Orlie and similar soils: 45 percent
 Nalivag and similar soils: 35 percent
 Minor components: 20 percent

Component Descriptions

Orlie soils

Landscape: Uplands
Landform: Fan remnants
Parent material: Fan alluvium derived from sandstone and shale
Slope: 2 to 8 percent
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)
Available water capacity: About 11.2 inches (high)
Shrink-swell potential: About 4.5 percent (moderate)
Runoff class: Medium
Calcium carbonate average in horizon of maximum accumulation: About 8 percent
Gypsum average in horizon of maximum accumulation: None
Salinity average in horizon of maximum accumulation: About 2 mmhos/cm
 (nonsaline)
Sodium adsorption ratio average in horizon of maximum accumulation: None
 (nonsodic)
Ecological site: Loamy
Potential native vegetation: western wheatgrass, big sagebrush, galleta, Indian
 ricegrass, needleandthread, fourwing saltbush
Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; loam
 Bt—3 to 35 inches; clay loam
 Btk and Bk—35 to 60 inches; clay loam

Nalivag soils

Landscape: Uplands
Landform: Fan remnants
Parent material: Fan alluvium derived from sandstone and shale
Slope: 2 to 8 percent
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)
Available water capacity: About 11.2 inches (high)
Shrink-swell potential: About 4.5 percent (moderate)
Runoff class: Medium
Calcium carbonate average in horizon of maximum accumulation: About 3 percent
Gypsum average in horizon of maximum accumulation: None
Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
 (nonsaline)
Sodium adsorption ratio average in horizon of maximum accumulation: About 1
 (slightly sodic)
Ecological site: Loamy
Potential native vegetation: western wheatgrass, big sagebrush, galleta, Indian
 ricegrass, needleandthread, fourwing saltbush
Land capability subclass (nonirrigated): 6c

Typical Profile:

- A—0 to 3 inches; loam
- C—3 to 60 inches; loam

Minor Components

Menefee and similar soils

Composition: About 10 percent

Slope: 8 to 25 percent

Depth to restrictive feature: 10 to 20 inches to bedrock, paralithic

Drainage class: Well drained

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Sparham and similar soils

Composition: About 10 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Flooding hazard: Rare

Ecological site: Salt Meadow

102—Menefee-Nalivag complex, 8 to 25 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 6,900 to 7,400 feet (2,103 to 2,256 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Menefee and similar soils: 40 percent

Nalivag and similar soils: 40 percent

Minor components: 20 percent

Component Descriptions**Menefee soils**

Landscape: Uplands

Landform: Hills

Parent material: Colluvium over residuum weathered from shale

Slope: 8 to 25 percent

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock, paralithic

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 2.8 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 3 (slightly sodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, galleta, Gambel oak, big sagebrush, sideoats grama

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 2 inches; clay loam

C—2 to 14 inches; clay loam

R—14 to 60 inches; bedrock

Nalivag soils

Landscape: Uplands

Landform: Hills

Parent material: Slope alluvium derived from sandstone and shale

Slope: 8 to 15 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 11.1 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 3 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 1 (slightly sodic)

Ecological site: Loamy

Potential native vegetation: western wheatgrass, big sagebrush, galleta, Indian ricegrass, needleandthread, fourwing saltbush

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 4 inches; loam

C—4 to 60 inches; loam

Minor Components

Vessilla and similar soils

Composition: About 10 percent

Slope: 1 to 30 percent

Depth to restrictive feature: 10 to 20 inches to bedrock, lithic

Drainage class: Well drained

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Orlie and similar soils

Composition: About 5 percent

Slope: 1 to 8 percent

Drainage class: Well drained

Ecological site: Loamy

Pinitos and similar soils

Composition: About 5 percent

Slope: 2 to 10 percent

Drainage class: Well drained

Ecological site: Loamy

103—Orlie fine sandy loam, 1 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,200 to 7,500 feet (1,890 to 2,286 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Orlie and similar soils: 80 percent

Minor components: 20 percent

Component Descriptions

Orlie soils

Landscape: Uplands

Landform: Mesas, fan remnants

Parent material: Fan alluvium and/or slope alluvium derived from sandstone and shale



Figure 7.—Typical landscape of Orlie fine sandy loam, 1 to 8 percent slopes.

Slope: 1 to 8 percent
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)
Available water capacity: About 10.7 inches (high)
Shrink-swell potential: About 4.5 percent (moderate)
Runoff class: Medium
Calcium carbonate average in horizon of maximum accumulation: About 8 percent
Gypsum average in horizon of maximum accumulation: None
Salinity average in horizon of maximum accumulation: About 2 mmhos/cm
 (nonsaline)
Sodium adsorption ratio average in horizon of maximum accumulation: None
 (nonsodic)
Ecological site: Loamy
Potential native vegetation: western wheatgrass, big sagebrush, galleta, Indian
 ricegrass, needleandthread, fourwing saltbush
Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; fine sandy loam
 Bt—3 to 13 inches; clay loam
 Btk and Bk—13 to 60 inches; sandy clay loam

Minor Components

Lindrith and similar soils

Composition: About 10 percent
Slope: 2 to 7 percent
Drainage class: Well drained
Ecological site: Loamy

Rosced and similar soils

Composition: About 5 percent
Slope: 20 to 50 percent
Drainage class: Well drained
Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Royosa and similar soils

Composition: About 5 percent
Slope: 2 to 7 percent
Drainage class: Somewhat excessively drained
Ecological site: Sandy

106—Amal silt loam, 2 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 36
Elevation: 7,400 to 7,600 feet (2,256 to 2,316 meters)
Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)
Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)
Frost-free period: 100 to 130 days

Map Unit Composition

Amal and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Amal soils

Landscape: Uplands

Landform: Plateaus

Parent material: Eolian deposits over slope alluvium derived from shale

Slope: 2 to 8 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 11.8 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 5 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: Gambel oak, muttongrass, bottlebrush squirreltail, mountain big sagebrush, prairie junegrass, Columbia needlegrass, bluegrass, pinyon ricegrass, western wheatgrass

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 4 inches; silt loam

Bt—4 to 43 inches; clay loam

2Bk—43 to 60 inches; silty clay loam

Minor Components

Menefee and similar soils

Composition: About 8 percent

Slope: 8 to 25 percent

Depth to restrictive feature: 10 to 20 inches to bedrock, paralithic

Drainage class: Well drained

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Vessilla and similar soils

Composition: About 7 percent

Slope: 1 to 30 percent

Depth to restrictive feature: 10 to 20 inches to bedrock, lithic

Drainage class: Well drained

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

107—Berryman-Ruson association, 1 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 7,400 to 7,600 feet (2,256 to 2,316 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Berryman and similar soils: 55 percent

Ruson and similar soils: 30 percent

Minor components: 15 percent



Figure 8.—Typical landscape of Berryman-Ruson association, 1 to 8 percent slopes.

Component Descriptions

Berryman soils

Landscape: Valleys

Landform: Alluvial fans

Parent material: Fan alluvium derived from limestone and sandstone

Slope: 3 to 8 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 11.3 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 48 percent

Gypsum average in horizon of maximum accumulation: About 1 percent

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 1
(slightly sodic)

Ecological site: Clayey

Potential native vegetation: western wheatgrass, alkali sacaton, big sagebrush, blue grama, bottlebrush squirreltail, muttongrass, prairie junegrass, spike muhly, winterfat

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; silt loam

Bw and Bk—3 to 80 inches; silty clay loam

Ruson soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from shale

Slope: 1 to 3 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 9.1 inches (high)

Shrink-swell potential: About 6.7 percent (high)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 3 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 2 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 3
(slightly sodic)

Ecological site: Swale

Potential native vegetation: western wheatgrass, alkali sacaton, big sagebrush, blue grama, bottlebrush squirreltail, mountain big sagebrush

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 2 inches; silt loam

C1—2 to 19 inches; silty clay loam

C2—19 to 65 inches; clay

Minor Components

Calendar and similar soils

Composition: About 14 percent

Slope: 5 to 35 percent

Depth to restrictive feature: 20 to 40 inches to bedrock, paralithic

Drainage class: Well drained

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/
Bouteloua gracilis

Chamita and similar soils

Composition: About 1 percent

Slope: 0 to 3 percent

Drainage class: Poorly drained

Flooding hazard: Frequent

Ecological site: Mountain Meadow

108—Peney-Ransect association, 1 to 20 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 7,100 to 7,800 feet (2,164 to 2,377 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Peney and similar soils: 50 percent

Ransect and similar soils: 35 percent

Minor components: 15 percent

Component Descriptions

Peney soils

Landscape: Uplands

Landform: Hills

Parent material: Slope alluvium derived from limestone

Slope: 3 to 20 percent

Surface fragments: About 27 percent channers

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock, lithic

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 1.4 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 20 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Potential native vegetation:

Common trees: Rocky Mountain juniper, twoneedle pinyon

Other plants: Rocky Mountain juniper, twoneedle pinyon, Gambel oak, prairie junegrass, Columbia needlegrass, Indian ricegrass, mountain mahogany, pinyon ricegrass

Land capability subclass (nonirrigated): 6e

Typical Profile:

- A—0 to 3 inches; channery loam
- Bk—3 to 10 inches; silt loam
- R—10 to 60 inches; bedrock

Ransect soils*Landscape:* Uplands*Landform:* Hills*Parent material:* Slope alluvium derived from limestone*Slope:* 1 to 6 percent*Depth class:* Moderately deep*Depth to restrictive feature:* 20 to 40 inches to bedrock, lithic*Drainage class:* Well drained*Slowest permeability:* 0.2 to 0.6 in/hr (moderately slow)*Available water capacity:* About 7.6 inches (moderate)*Shrink-swell potential:* About 4.5 percent (moderate)*Runoff class:* Low*Calcium carbonate average in horizon of maximum accumulation:* About 50 percent*Gypsum average in horizon of maximum accumulation:* None*Salinity average in horizon of maximum accumulation:* About 1 mmhos/cm
(nonsaline)*Sodium adsorption ratio average in horizon of maximum accumulation:* About 1
(slightly sodic)*Ecological site:* Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua
gracilis*Potential native vegetation:*

Common trees: Rocky Mountain juniper, twoneedle pinyon

Other plants: Gambel oak, prairie junegrass, Indian ricegrass, bottlebrush
squirreltail, mountain mahogany, pinyon ricegrass*Land capability subclass (nonirrigated):* 6c*Typical Profile:*

- A—0 to 3 inches; silty clay loam
- Bk—3 to 38 inches; clay loam
- R—38 to 60 inches; bedrock

Minor Components

Rock outcrop

Composition: About 5 percent*Depth to restrictive feature:* 0 inches to bedrock, lithic

Berryman and similar soils

Composition: About 5 percent*Slope:* 3 to 8 percent*Drainage class:* Well drained*Ecological site:* Clayey

Ruson and similar soils

Composition: About 5 percent*Slope:* 1 to 3 percent*Drainage class:* Well drained*Ecological site:* Swale

109—Calendar gravelly loam, 5 to 35 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 7,200 to 7,700 feet (2,195 to 2,347 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Calendar and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Calendar soils

Landscape: Uplands

Landform: Hills

Parent material: Slope alluvium derived from shale

Slope: 5 to 35 percent

Surface fragments: About 30 percent (shape or size unspecified)

Depth class: Moderately deep

Depth to restrictive feature: 20 to 40 inches to bedrock, paralithic

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 4.9 inches (low)

Shrink-swell potential: About 7.5 percent (high)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 13 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 2 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Potential native vegetation:

Common trees: Rocky Mountain juniper, twoneedle pinyon

Other plants: twoneedle pinyon, Gambel oak, Rocky Mountain juniper, prairie junegrass, Columbia needlegrass, bottlebrush squirreltail, mountain big sagebrush, muttongrass

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 2 inches; gravelly loam

2Bw—2 to 17 inches; clay

2Bk—17 to 35 inches; clay

3Cr—35 to 60 inches; bedrock

Minor Components

Berryman and similar soils

Composition: About 10 percent

Slope: 3 to 8 percent

Drainage class: Well drained

Ecological site: Clayey



Figure 9.—Typical landscape of Calendar gravelly loam, 5 to 35 percent slopes.



Figure 10.—Typical landscape of Vessilla-Menefee-Orlie complex, 1 to 30 percent slopes.

Menefee and similar soils

Composition: About 5 percent

Slope: 8 to 25 percent

Depth to restrictive feature: 10 to 20 inches to bedrock, paralithic

Drainage class: Well drained

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/
Bouteloua gracilis

110—Vessilla-Menefee-Orlie complex, 1 to 30 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,100 to 7,200 feet (1,859 to 2,195 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Vessilla and similar soils: 45 percent

Menefee and similar soils: 25 percent

Orlie and similar soils: 20 percent

Minor components: 10 percent

Component Descriptions

Vessilla soils

Landscape: Uplands

Landform: Breaks

Parent material: Slope alluvium over residuum weathered from sandstone

Slope: 1 to 30 percent

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock, lithic

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 2.1 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 3
(slightly sodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua
gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, galleta, Indian ricegrass, mountain big sagebrush, oak,
sideoats grama

Land capability subclass (nonirrigated): 7s

Typical Profile:

- A—0 to 1 inches; sandy loam
- C—1 to 15 inches; sandy loam
- R—15 to 60 inches; bedrock

Menefee soils*Landscape:* Uplands*Landform:* Breaks*Parent material:* Colluvium over residuum weathered from shale*Slope:* 2 to 30 percent*Depth class:* Shallow*Depth to restrictive feature:* 10 to 20 inches to bedrock, paralithic*Drainage class:* Well drained*Slowest permeability:* .06 to 0.2 in/hr (slow)*Available water capacity:* About 2.0 inches (very low)*Shrink-swell potential:* About 4.5 percent (moderate)*Runoff class:* High*Calcium carbonate average in horizon of maximum accumulation:* About 8 percent*Gypsum average in horizon of maximum accumulation:* None*Salinity average in horizon of maximum accumulation:* About 1 mmhos/cm
(nonsaline)*Sodium adsorption ratio average in horizon of maximum accumulation:* About 1
(slightly sodic)*Ecological site:* Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua
gracilis*Potential native vegetation:*

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, galleta, Gambel oak, big sagebrush, sideoats grama

Land capability subclass (nonirrigated): 7e*Typical Profile:*

- A—0 to 3 inches; clay loam
- C—3 to 10 inches; clay loam
- Cr—10 to 60 inches; bedrock

Orlie soils*Landscape:* Uplands*Landform:* Summits mesas*Parent material:* Slope alluvium derived from sandstone and shale*Slope:* 1 to 8 percent*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* 0.2 to 0.6 in/hr (moderately slow)*Available water capacity:* About 10.9 inches (high)*Shrink-swell potential:* About 4.5 percent (moderate)*Runoff class:* Medium*Calcium carbonate average in horizon of maximum accumulation:* About 8 percent*Gypsum average in horizon of maximum accumulation:* None*Salinity average in horizon of maximum accumulation:* About 2 mmhos/cm
(nonsaline)*Sodium adsorption ratio average in horizon of maximum accumulation:* None
(nonsodic)*Ecological site:* Loamy

Potential native vegetation: western wheatgrass, big sagebrush, galleta, Indian ricegrass, needleandthread, fourwing saltbush

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 4 inches; silt loam

Bt—4 to 14 inches; clay loam

Btk and Bk—14 to 60 inches; clay loam

Minor Components

Rock outcrop

Composition: About 4 percent

Depth to restrictive feature: 0 inches to bedrock, lithic

Gobernador and similar soils

Composition: About 3 percent

Slope: 0 to 2 percent

Drainage class: Well drained

Ecological site: Salty Bottomland

Pinavetes and similar soils

Composition: About 3 percent

Slope: 3 to 12 percent

Drainage class: Excessively drained

Ecological site: Sandy Slopes

113—Teromote-Ruson association, 1 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 7,100 to 7,400 feet (2,164 to 2,256 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Teromote and similar soils: 55 percent

Ruson and similar soils: 25 percent

Minor components: 20 percent

Component Descriptions

Teromote soils

Landscape: Uplands

Landform: Alluvial fans

Parent material: Fan alluvium derived from shale

Slope: 2 to 8 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 11.7 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 13 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 2 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Loamy

Potential native vegetation: western wheatgrass, big sagebrush, galleta, Indian
ricegrass, needleandthread, fourwing saltbush

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 2 inches; loam

Bw—2 to 12 inches; loam

Bk—12 to 65 inches; loam

Ruson soils

Landscape: Uplands

Landform: Stream terraces

Parent material: Stream alluvium derived from shale

Slope: 1 to 3 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 8.5 inches (moderate)

Shrink-swell potential: About 7.5 percent (high)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 3 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 2 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 2
(slightly sodic)

Ecological site: Swale

Potential native vegetation: western wheatgrass, alkali sacaton, big sagebrush, blue
grama, bottlebrush squirreltail, mountain big sagebrush

Land capability subclass (nonirrigated): 6c

Typical Profile:

A1—0 to 3 inches; clay loam

C2—3 to 65 inches; clay

Minor Components

Berryman and similar soils

Composition: About 10 percent

Slope: 3 to 8 percent

Drainage class: Well drained

Ecological site: Clayey

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock, lithic

Calendar and similar soils

Composition: About 5 percent

Slope: 5 to 35 percent

Depth to restrictive feature: 20 to 40 inches to bedrock, paralithic

Drainage class: Well drained

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

115—Menefee channery loam, 2 to 35 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 7,000 to 7,500 feet (2,134 to 2,286 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Menefee and similar soils: 80 percent

Minor components: 20 percent

Component Descriptions

Menefee soils

Landscape: Uplands

Landform: Hills

Parent material: Colluvium over residuum weathered from shale

Slope: 2 to 35 percent

Surface fragments: About 15 percent channers

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock, paralithic

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 2.2 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 13 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 3 (slightly sodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, galleta, Gambel oak, big sagebrush, sideoats grama

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 2 inches; channery loam

C—2 to 11 inches; clay loam

Cr—11 to 60 inches; bedrock

Minor Components

Berryman and similar soils

Composition: About 8 percent

Slope: 3 to 8 percent

Drainage class: Well drained

Ecological site: Clayey

Calendar and similar soils

Composition: About 7 percent

Slope: 5 to 35 percent

Depth to restrictive feature: 20 to 40 inches to bedrock, paralithic

Drainage class: Well drained

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Elpedro and similar soils

Composition: About 5 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

117—Chamita loam, 0 to 2 percent slopes**Map Unit Setting**

Major Land Resource Area: 48A

Elevation: 7,800 to 8,500 feet (2,377 to 2,591 meters)

Mean annual precipitation: 18 to 25 inches (457 to 635 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Chamita and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Chamita soils**

Landscape: Valleys

Landform: Flood plains

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 0 to 2 percent

Depth class: Very deep

Drainage class: Poorly drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 10.7 inches (high)

Shrink-swell potential: About 4.1 percent (moderate)

Flooding hazard: Frequent

Seasonal high water table depth: 0 to 36 inches

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Mountain Meadow

Potential native vegetation: tufted hairgrass, sedge, bulrush, mountain brome,
western wheatgrass, clover, red fescue, shrubby cinquefoil

Land capability subclass (irrigated): 4w

Land capability subclass (nonirrigated): 4w

Typical Profile:

A1—0 to 7 inches; loam

A2,A3—7 to 36 inches; loam

Cg1,Cg2—36 to 55 inches; loam

Cg3—55 to 60 inches; gravelly sandy loam

Minor Components

Hesperus and similar soils

Composition: About 10 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Mountain Loam

Pastorius and similar soils

Composition: About 5 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Mountain Loam

118—Hesperus-Pastorius-Chamita complex, 0 to 5 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 8,000 to 8,700 feet (2,438 to 2,652 meters)

Mean annual precipitation: 18 to 25 inches (457 to 635 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Hesperus and similar soils: 35 percent

Pastorius and similar soils: 25 percent

Chamita and similar soils: 20 percent

Minor components: 20 percent

Component Descriptions

Hesperus soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 1 to 5 percent



Figure 11.—Typical landscape of Hesperus-Pastorius-Chamita complex, 0 to 5 percent slopes.

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 10.6 inches (high)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Mountain Loam

Potential native vegetation: mountain muhly, sideoats grama, Arizona fescue, blue grama, western wheatgrass

Land capability subclass (irrigated): 3e

Land capability subclass (nonirrigated): 3e

Typical Profile:

A—0 to 4 inches; loam

BA,Bt,C—4 to 60 inches; loam

Pastorius soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 1 to 5 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 6.6 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Mountain Loam

Potential native vegetation: Arizona fescue, bluegrass, western wheatgrass,
needlegrass, bottlebrush squirreltail, mountain muhly, spike muhly

Land capability subclass (irrigated): 3e

Land capability subclass (nonirrigated): 4c

Typical Profile:

A and BA—0 to 12 inches; silt loam

Bt1—12 to 20 inches; cobbly loam

Bt2 and Bt3—20 to 60 inches; very cobbly loam

Chamita soils

Landscape: Valleys

Landform: Flood plains

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 0 to 2 percent

Depth class: Very deep

Drainage class: Poorly drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 11.3 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Flooding hazard: Frequent

Seasonal high water table depth: 0 to 36 inches

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Mountain Meadow

Potential native vegetation: tufted hairgrass, sedge, bulrush, mountain brome,
western wheatgrass, clover, red fescue, shrubby cinquefoil

Land capability subclass (irrigated): 4w

Land capability subclass (nonirrigated): 4w

Typical Profile:

A1—0 to 10 inches; clay loam

A2—10 to 36 inches; loam

Cg—36 to 60 inches; clay loam

Minor Components

Abreu and similar soils

Composition: About 10 percent

Slope: 15 to 60 percent

Depth to restrictive feature: 40 to 60 inches to bedrock, lithic

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Abies concolor/Quercus gambelii-

Symphoricarpos albus/Festuca arizonica-Carex geyeri

Nabor and similar soils

Composition: About 10 percent

Slope: 5 to 35 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Festuca arizonica

119—Roques-Nusmag clay loams, 1 to 8 percent slopes**Map Unit Setting**

Major Land Resource Area: 48A

Elevation: 7,400 to 8,000 feet (2,256 to 2,438 meters)

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Roques and similar soils: 45 percent

Nusmag and similar soils: 35 percent

Minor components: 20 percent

Component Descriptions**Roques soils**

Landscape: Valleys

Landform: Alluvial fans

Parent material: Fan alluvium derived from shale

Slope: 2 to 8 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .001 to .06 in/hr (very slow)

Available water capacity: About 9.0 inches (moderate)

Shrink-swell potential: About 7.5 percent (high)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Mountain Loam

Potential native vegetation: western wheatgrass, Rocky Mountain iris, prairie
junegrass, spike muhly, sedge, shrubby cinquefoil

Land capability subclass (irrigated): 3s

Land capability subclass (nonirrigated): 4c

Typical Profile:

A—0 to 2 inches; clay loam

Bw and Bk—2 to 60 inches; clay

Nusmag soils*Landscape:* Valleys*Landform:* Stream terraces*Parent material:* Stream alluvium derived from shale*Slope:* 1 to 3 percent*Depth class:* Very deep*Drainage class:* Moderately well drained*Slowest permeability:* .001 to .06 in/hr (very slow)*Available water capacity:* About 9.0 inches (high)*Shrink-swell potential:* About 7.5 percent (high)*Seasonal high water table depth:* About 42 to 72 inches*Runoff class:* Medium*Calcium carbonate average in horizon of maximum accumulation:* About 6 percent*Gypsum average in horizon of maximum accumulation:* None*Salinity average in horizon of maximum accumulation:* None mmhos/cm (nonsaline)*Sodium adsorption ratio average in horizon of maximum accumulation:* None (nonsodic)*Ecological site:* Mountain Meadow*Potential native vegetation:* tufted hairgrass, sedge, bulrush, mountain brome, western wheatgrass, clover, red fescue, shrubby cinquefoil*Land capability subclass (irrigated):* 3s*Land capability subclass (nonirrigated):* 4c*Typical Profile:*

A—0 to 3 inches; clay loam

Bw and C—3 to 60 inches; clay

Minor Components

Rombo and similar soils

Composition: About 12 percent*Slope:* 5 to 25 percent*Depth to restrictive feature:* 20 to 40 inches to bedrock, paralithic*Drainage class:* Well drained*Ecological site:* Mountain Shale

Wiggler and similar soils

Composition: About 7 percent*Slope:* 5 to 25 percent*Depth to restrictive feature:* 10 to 20 inches to bedrock, paralithic*Drainage class:* Well drained*Ecological site:* Mountain Shale

Tottles and similar soils

Composition: About 1 percent*Slope:* 0 to 2 percent*Drainage class:* Poorly drained*Ecological site:* Mountain Meadow

125—Hogg-Mara loams, 2 to 12 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,400 to 8,200 feet (2,256 to 2,499 meters)

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Hogg and similar soils: 55 percent

Mara and similar soils: 30 percent

Minor components: 15 percent

Component Descriptions

Hogg soils

Landscape: Uplands

Landform: Hills

Parent material: Colluvium derived from shale

Slope: 2 to 9 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 9.5 inches (high)

Shrink-swell potential: About 7.5 percent (high)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: None mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Mountain Valley

Potential native vegetation: Arizona fescue, needlegrass, prairie Junegrass, western
wheatgrass, pine dropseed

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 3 inches; loam

Bt and Btk—3 to 60 inches; clay loam

Mara soils

Landscape: Uplands

Landform: Hills

Parent material: Slope alluvium derived from sandstone and shale

Slope: 2 to 12 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 11.8 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 10 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Mountain Valley

Potential native vegetation: Arizona fescue, needlegrass, prairie Junegrass, western wheatgrass, Thurber fescue, pine dropseed, ponderosa pine

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 2 inches; loam

Bw—2 to 18 inches; clay loam

Bk—18 to 60 inches; clay loam

Minor Components

Nusmag and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Moderately well drained

Ecological site: Mountain Meadow

Rombo and similar soils

Composition: About 5 percent

Slope: 5 to 25 percent

Depth to restrictive feature: 20 to 40 inches to bedrock, paralithic

Drainage class: Well drained

Ecological site: Mountain Shale

Wiggler and similar soils

Composition: About 5 percent

Slope: 5 to 25 percent

Depth to restrictive feature: 10 to 20 inches to bedrock, paralithic

Drainage class: Well drained

Ecological site: Mountain Shale

127—Rombo-Wiggler complex, 5 to 25 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,400 to 8,100 feet (2,256 to 2,469 meters)

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Rombo and similar soils: 45 percent

Wiggler and similar soils: 40 percent

Minor components: 15 percent

Component Descriptions

Rombo soils

Landscape: Uplands

Landform: Hills

Parent material: Slope alluvium over colluvium derived from shale

Slope: 5 to 25 percent

Depth class: Moderately deep

Depth to restrictive feature: 20 to 40 inches to bedrock, paralithic

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 5.6 inches (low)

Shrink-swell potential: About 7.5 percent (high)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 7 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 2
(slightly sodic)

Ecological site: Mountain Shale

Potential native vegetation: western wheatgrass, Gambel oak, mountain muhly,
Arizona fescue, Indian ricegrass, big sagebrush

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 4 inches; clay

Bw—4 to 21 inches; clay

Bk—21 to 37 inches; clay

2Cr—37 to 60 inches; bedrock

Wiggler soils

Landscape: Uplands

Landform: Hills

Parent material: Slope alluvium over colluvium derived from shale

Slope: 5 to 25 percent

Surface fragments: About 25 percent channers

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock, paralithic

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 1.6 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 5 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 3
(slightly sodic)

Ecological site: Mountain Shale

Potential native vegetation: true mountain mahogany, sedge, Indian ricegrass

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; channery clay loam

C—3 to 10 inches; clay loam

Cr—10 to 60 inches; bedrock

Minor Components

Carrick and similar soils

Composition: About 5 percent

Slope: 1 to 4 percent

Drainage class: Well drained

Ecological site: Mountain Loam

Hogg and similar soils

Composition: About 5 percent

Slope: 2 to 9 percent

Drainage class: Well drained

Ecological site: Mountain Valley

Roques and similar soils

Composition: About 5 percent

Slope: 2 to 8 percent

Drainage class: Well drained

Ecological site: Mountain Loam

129—Nusmag-Tottles clay loams, 0 to 3 percent slopes**Map Unit Setting**

Major Land Resource Area: 48A

Elevation: 7,400 to 8,000 feet (2,256 to 2,438 meters)

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Nusmag and similar soils: 45 percent

Tottles and similar soils: 35 percent

Minor components: 20 percent

Component Descriptions**Nusmag soils**

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from shale

Slope: 0 to 3 percent

Depth class: Very deep

Drainage class: Moderately well drained

Slowest permeability: .001 to .06 in/hr (very slow)

Available water capacity: About 9.0 inches (moderate)

Shrink-swell potential: About 7.5 percent (high)

Seasonal high water table depth: About 42 to 72 inches

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 6 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation:
None (nonsodic)



Figure 12.—Typical landscape of Nusmag-Tottles clay loams, 0 to 3 percent slopes in the foreground and Yata-Eody loams, 50 to 80 percent slopes in the background.

Ecological site: Mountain Meadow

Potential native vegetation: tufted hairgrass, sedge, bulrush, mountain brome, western wheatgrass, clover, red fescue, shrubby cinquefoil

Land capability subclass (irrigated): 3s

Land capability subclass (nonirrigated): 4c

Typical Profile:

A—0 to 2 inches; clay loam

Bw and C—2 to 60 inches; clay

Tottles soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from shale

Slope: 0 to 2 percent

Depth class: Very deep

Drainage class: Poorly drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 9.2 inches (high)

Shrink-swell potential: About 6.6 percent (high)

Seasonal high water table depth: About 6 to 36 inches

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 1
(slightly sodic)

Ecological site: Mountain Meadow

Potential native vegetation: tufted hairgrass, sedge, bulrush, mountain brome,
western wheatgrass, clover, red fescue, shrubby cinquefoil

Land capability subclass (irrigated): 3w

Land capability subclass (nonirrigated): 4w

Typical Profile:

A1—0 to 6 inches; clay loam

A2—6 to 21 inches; clay

A3 and Cg—21 to 60 inches; clay

Minor Components

Chamita and similar soils

Composition: About 8 percent

Slope: 0 to 3 percent

Drainage class: Poorly drained

Flooding hazard: Frequent

Ecological site: Mountain Meadow

Hogg and similar soils

Composition: About 7 percent

Slope: 2 to 9 percent

Drainage class: Well drained

Ecological site: Mountain Valley

Mara and similar soils

Composition: About 5 percent

Slope: 2 to 12 percent

Drainage class: Well drained

Ecological site: Mountain Valley

130—Topetaul-Hogg complex, 3 to 25 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,500 to 8,200 feet (2,286 to 2,499 meters)

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Topetaul and similar soils: 45 percent

Hogg and similar soils: 35 percent

Minor components: 20 percent

Component Descriptions

Topetaul soils

Landscape: Uplands

Landform: Dipslope of cuestras

Parent material: Slope alluvium over colluvium derived from shale

Slope: 3 to 25 percent

Surface fragments: About 5 percent gravel, about 18 percent cobbles

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 4.2 inches (low)

Shrink-swell potential: About 6.5 percent (high)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pinus ponderosa/Festuca arizonica-Danthonia parryi

Potential native vegetation:

Common trees: ponderosa pine

Other plants: Arizona fescue, mountain muhly, muttongrass, prairie Junegrass,
sedge

Land capability subclass (nonirrigated): 4c

Typical Profile:

A—0 to 6 inches; cobbly silt loam

BA—6 to 13 inches; very cobbly silt loam

2Bt1—13 to 28 inches; very gravelly clay

2Bt2, 2Bt3—28 to 60 inches; extremely cobbly clay

Hogg soils

Landscape: Uplands

Landform: Dipslope of cuestras

Parent material: Colluvium derived from sandstone and shale

Slope: 3 to 25 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 9.5 inches (high)

Shrink-swell potential: About 7.2 percent (high)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 10 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Mountain Valley

Potential native vegetation: Arizona fescue, mountain muhly, needlegrass, prairie
Junegrass, big sagebrush, bottlebrush squirreltail, pine dropseed, western
wheatgrass

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 7 inches; loam

Bt1—7 to 25 inches; clay loam

Bt2—25 to 60 inches; gravelly clay

Minor Components

Carrick and similar soils

Composition: About 8 percent

Slope: 1 to 4 percent

Drainage class: Well drained

Ecological site: Mountain Loam

Hesperus and similar soils

Composition: About 7 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Mountain Loam

Roques and similar soils

Composition: About 5 percent

Slope: 2 to 8 percent

Drainage class: Well drained

Ecological site: Mountain Loam

132—Stout-Rock outcrop-Carjo complex, 5 to 20 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,200 to 8,300 feet (2,195 to 2,530 meters)

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Stout and similar soils: 40 percent

Rock outcrop: 20 percent

Carjo and similar soils: 20 percent

Minor components: 20 percent

Component Descriptions

Stout soils

Landscape: Uplands

Landform: Hills, ridges

Parent material: Slope alluvium over residuum weathered from sandstone

Slope: 5 to 20 percent

Surface fragments: About 18 percent cobbles

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock, lithic

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 2.1 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pinus ponderosa/Festuca arizonica-Danthonia parryi

Potential native vegetation:

Common trees: ponderosa pine

Other plants: Arizona fescue, mountain muhly, muttongrass, prairie Junegrass,
sedge

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; flaggy loam

C—3 to 14 inches; loam

R—14 to 18 inches; bedrock

Rock outcrop

Depth to restrictive feature: 0 inches to bedrock, lithic

Carjo soils

Landscape: Uplands

Landform: Ridges, hills

Parent material: Slope alluvium over colluvium derived from sandstone and shale

Slope: 5 to 20 percent

Surface fragments: About 20 percent flagstones

Depth class: Moderately deep

Depth to restrictive feature: 20 to 40 inches to bedrock, lithic

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 6.2 inches (moderate)

Shrink-swell potential: About 6.9 percent (high)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pinus ponderosa-Juniperus scopulorum/Quercus gambelii

Potential native vegetation:

Common trees: ponderosa pine, Rocky Mountain juniper

Other plants: Gambel oak, muttongrass, mountain muhly , prairie Junegrass,
sedge

Land capability subclass (nonirrigated): 4s

Typical Profile:

A—0 to 5 inches; very flaggy loam

E—5 to 10 inches; flaggy clay loam

Bt—10 to 38 inches; clay loam

2R—38 to 60 inches; bedrock

Minor Components

Hogg and similar soils

Composition: About 10 percent

Slope: 2 to 9 percent

Drainage class: Well drained

Ecological site: Mountain Valley

Topetaul and similar soils

Composition: About 10 percent

Slope: 3 to 25 percent

Drainage class: Well drained

Ecological site: Pinus ponderosa/Festuca arizonica-Danthonia parryi

133—Carrick silt loam, 1 to 4 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 7,200 to 7,600 feet (2,195 to 2,316 meters)

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Carrick and similar soils: 90 percent

Minor components: 10 percent



Figure 13.—Brazos Peak. Typical landscape of Carrick silt loam, 1 to 4 percent slopes in the foreground used as pastureland and Rock outcrop-Bracos complex, 40 to 80 percent slopes in the far background.

Component Descriptions

Carrick soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Eolian deposits over stream alluvium derived from volcanic rock

Slope: 1 to 4 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 10.8 inches (high)

Shrink-swell potential: About 7.2 percent (high)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: None mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Mountain Loam

Potential native vegetation: Arizona fescue, big sagebrush, bluegrass, western wheatgrass, needlegrass, bottlebrush squirreltail, muhly

Land capability subclass (irrigated): 3e

Land capability subclass (nonirrigated): 3c

Typical Profile:

A—0 to 3 inches; silt loam

Bt1—3 to 9 inches; silty clay loam

Bt2 to Bt4—9 to 60 inches; silty clay loam

Minor Components

Ruson and similar soils

Composition: About 10 percent

Slope: 1 to 3 percent

Drainage class: Well drained

Ecological site: Swale

136—Elpedro silt loam, 1 to 5 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,500 to 7,400 feet (1,981 to 2,256 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Elpedro and similar soils: 80 percent

Minor components: 20 percent

Component Descriptions

Elpedro soils

Landscape: Uplands

Landform: Hills, fan remnants

Parent material: Old alluvium derived from sandstone and shale

Slope: 1 to 5 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 10.7 inches (high)

Shrink-swell potential: About 2.7 percent (low)

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 10 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Loamy

Potential native vegetation: western wheatgrass, big sagebrush, galleta, Indian ricegrass, needleandthread, fourwing saltbush

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 3 inches; silt loam

Bt—3 to 25 inches; silty clay loam

Bk—25 to 60 inches; silty clay loam

Minor Components

Berryman and similar soils

Composition: About 8 percent

Slope: 3 to 8 percent

Drainage class: Well drained

Ecological site: Clayey

Ruson and similar soils

Composition: About 7 percent

Slope: 1 to 3 percent

Drainage class: Well drained

Ecological site: Swale

Teromote and similar soils

Composition: About 5 percent

Slope: 2 to 8 percent

Drainage class: Well drained

Ecological site: Loamy

137—Yata-Eody loams, 50 to 80 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 8,100 to 9,700 feet (2,469 to 2,957 meters)

Mean annual precipitation: 25 to 28 inches (635 to 711 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Map Unit Composition

Yata and similar soils: 50 percent
Eody and similar soils: 40 percent
Minor components: 10 percent

Component Descriptions

Yata soils

Landscape: Mountains

Landform: Escarpments

Parent material: Slope alluvium over colluvium derived from igneous and sedimentary rock

Slope: 50 to 80 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 6.8 inches (moderate)

Shrink-swell potential: About 6.3 percent (high)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: None mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Pseudotsuga menziesii-Abies concolor/Quercus gambelii-Symphoricarpos albus/Festuca arizonica-Carex geyeri

Potential native vegetation:

Common trees: white fir, corkbark fir, Engelmann spruce, quaking aspen, Douglas-fir

Other plants: sedge, mountain muhly, vaccinium, bluegrass

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 10 inches; loam

Bt1—10 to 21 inches; cobbly silty clay loam

Bt2 and Bt3—21 to 60 inches; very cobbly silty clay

Eody soils

Landscape: Mountains

Landform: Escarpments

Parent material: Colluvium derived from igneous and sedimentary rock

Slope: 50 to 80 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 10.6 inches (high)

Shrink-swell potential: About 7.5 percent (high)

Runoff class: Very high

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Pseudotsuga menziesii-Abies concolor/Quercus gambelii-Symphoricarpos albus/Festuca arizonica-Carex geyeri

Potential native vegetation:

Common trees: white fir, corkbark fir, Engelmann spruce, quaking aspen, Douglas-fir

Other plants: sedge, mountain muhly, vaccinium, bluegrass

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 4 inches; loam

C—4 to 60 inches; silty clay loam

Minor Components

Rock outcrop

Composition: About 10 percent

Depth to restrictive feature: 0 inches to bedrock, lithic

140—Espiritu-Wauquie association, 35 to 60 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,000 to 7,000 feet (1,829 to 2,134 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Espiritu and similar soils: 45 percent

Wauquie and similar soils: 35 percent

Minor components: 20 percent

Component Descriptions

Espiritu soils

Landscape: Uplands

Landform: South aspect escarpments

Parent material: Slope alluvium over colluvium derived from igneous rock

Slope: 35 to 60 percent

Surface fragments: About 20 percent gravel, about 25 percent cobbles

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 5.1 inches (low)

Shrink-swell potential: About 2.2 percent (low)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 10 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Gravelly Hills

Potential native vegetation: black grama, sideoats grama, blue grama, hairy grama, muttongrass, needleandthread, oneseed juniper, twoneedle pinyon

Land capability subclass (nonirrigated): 7e

Typical Profile:

- A—0 to 5 inches; very cobbly loam
- Bt—5 to 19 inches; very cobbly clay loam
- Bk1—19 to 40 inches; very cobbly sandy clay loam
- Bk2—40 to 60 inches; very cobbly sandy loam

Wauquie soils

Landscape: Uplands

Landform: North aspect escarpments

Parent material: Slope alluvium derived from shale over colluvium derived from granite

Slope: 35 to 60 percent

Surface fragments: About 35 percent gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 4.1 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 10 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Pinus edulis-Juniperus monosperma/Cercocarpus montanus-Chrysothamnus nauseosus/Bouteloua gracilis

Potential native vegetation:

- Common trees: oneseed juniper, twoneedle pinyon
- Other plants: Gambel oak, mountain big sagebrush, mountain mahogany, mountain muhly, pinyon ricegrass, bluegrass, bottlebrush squirreltail, pine dropseed, prairie junegrass, skunkbush sumac

Land capability subclass (nonirrigated): 7e

Typical Profile:

- A—0 to 3 inches; very gravelly loam
- Bt1—3 to 13 inches; very gravelly sandy clay loam
- Bt2—13 to 19 inches; extremely cobbly sandy clay loam
- Bk—19 to 60 inches; very cobbly loam

Minor Components

Oelop and similar soils

Composition: About 8 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Puye and similar soils*Composition:* About 7 percent*Slope:* 3 to 15 percent*Depth to restrictive feature:* 10 to 20 inches to duripan*Drainage class:* Somewhat excessively drained*Ecological site:* Juniperus monosperma-Pinus edulis/Fallugia paradoxa-Chrysothamnus nauseosus/Bouteloua hirsuta-Bouteloua gracilis**Rock outcrop***Composition:* About 5 percent*Depth to restrictive feature:* 0 inches to bedrock, lithic**141—Capillo-Carjo-Vamer complex, 3 to 25 percent slopes****Map Unit Setting***Major Land Resource Area:* 48A*Elevation:* 7,000 to 7,500 feet (2,134 to 2,286 meters)*Mean annual precipitation:* 16 to 18 inches (406 to 457 millimeters)*Mean annual air temperature:* 40 to 45 degrees F. (4.4 to 7.2 degrees C.)*Frost-free period:* 80 to 100 days**Map Unit Composition**

Capillo and similar soils: 35 percent

Carjo and similar soils: 30 percent

Vamer and similar soils: 30 percent

Minor components: 5 percent

Component Descriptions**Capillo soils***Landscape:* Uplands*Landform:* Breaks*Parent material:* Fan alluvium derived from sandstone and shale*Slope:* 3 to 10 percent*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* .06 to 0.2 in/hr (slow)*Available water capacity:* About 10.3 inches (high)*Shrink-swell potential:* About 6.7 percent (high)*Runoff class:* High*Calcium carbonate average in horizon of maximum accumulation:* None*Gypsum average in horizon of maximum accumulation:* None*Salinity average in horizon of maximum accumulation:* None mmhos/cm (nonsaline)*Sodium adsorption ratio average in horizon of maximum accumulation:* None (nonsodic)*Ecological site:* Mountain Loam*Potential native vegetation:*

Common trees: ponderosa pine

Other plants: Gambel oak, common snowberry, muttongrass, mountain muhly, sedge

Land capability subclass (nonirrigated): 4c

Typical Profile:

- A—0 to 4 inches; loam
- BA—4 to 11 inches; silt loam
- Bt1 to Bt3—11 to 16 inches; clay
- C—16 to 60 inches; clay loam

Carjo soils*Landscape:* Uplands*Landform:* Hills*Parent material:* Slope alluvium over colluvium derived from sandstone and shale*Slope:* 3 to 15 percent*Surface fragments:* About 20 percent flagstones*Depth class:* Moderately deep*Depth to restrictive feature:* 20 to 40 inches to bedrock, lithic*Drainage class:* Well drained*Slowest permeability:* .06 to 0.2 in/hr (slow)*Available water capacity:* About 5.4 inches (low)*Shrink-swell potential:* About 7.5 percent (high)*Runoff class:* High*Calcium carbonate average in horizon of maximum accumulation:* None*Gypsum average in horizon of maximum accumulation:* None*Salinity average in horizon of maximum accumulation:* About 1 mmhos/cm (nonsaline)*Sodium adsorption ratio average in horizon of maximum accumulation:* None (nonsodic)*Ecological site:* Pinus ponderosa-Juniperus scopulorum/Quercus gambelii*Potential native vegetation:*

Common trees: Rocky Mountain juniper , ponderosa pine

Other plants: Gambel oak, muttongrass, mountain muhly , prairie Junegrass, sedge

Land capability subclass (nonirrigated): 4s*Typical Profile:*

- A—0 to 4 inches; flaggy loam
- Bt—4 to 31 inches; clay
- 2R—31 to 60 inches; bedrock

Vamer soils*Landscape:* Uplands*Landform:* Breaks*Parent material:* Slope alluvium over colluvium derived from sandstone and shale*Slope:* 10 to 25 percent*Surface fragments:* About 15 percent channers*Depth class:* Shallow*Depth to restrictive feature:* 10 to 20 inches to bedrock, lithic*Drainage class:* Well drained*Slowest permeability:* .06 to 0.2 in/hr (slow)*Available water capacity:* About 3.0 inches (very low)*Shrink-swell potential:* About 4.5 percent (moderate)*Runoff class:* High*Calcium carbonate average in horizon of maximum accumulation:* About 3 percent*Gypsum average in horizon of maximum accumulation:* None*Salinity average in horizon of maximum accumulation:* None mmhos/cm (nonsaline)*Sodium adsorption ratio average in horizon of maximum accumulation:* None (nonsodic)

Ecological site: Mountain Brush

Potential native vegetation: western wheatgrass, Arizona fescue, Gambel oak, big sagebrush, prairie junegrass, bottlebrush squirreltail, spike muhly

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 2 inches; channery loam

Bt—2 to 19 inches; clay loam

R—19 to 60 inches; bedrock

Minor Components

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock, lithic

142—Pinavetes loamy sand, 3 to 12 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,000 to 7,000 feet (1,829 to 2,134 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Pinavetes and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Pinavetes soils

Landscape: Uplands

Landform: Dunes

Parent material: Eolian deposits derived from sandstone

Slope: 3 to 12 percent

Depth class: Very deep

Drainage class: Excessively drained

Slowest permeability: 6.0 to 20 in/hr (rapid)

Available water capacity: About 3.6 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 3 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: None mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Sandy Slopes

Potential native vegetation: Indian ricegrass, blue grama, western wheatgrass, galleta, oneseed juniper, sand sagebrush, twoneedle pinyon

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 2 inches; loamy sand

C—2 to 60 inches; loamy sand



Figure 14.—Typical landscape of Pinavetes loamy sand, 3 to 12 percent slopes.

Minor Components

Palacid and similar soils

Composition: About 10 percent

Slope: 10 to 40 percent

Drainage class: Well drained

Ecological site: Gravelly Hills

Penistaja and similar soils

Composition: About 5 percent

Slope: 2 to 8 percent

Drainage class: Well drained

Ecological site: Loamy

145—Dermala-Rosced complex, 20 to 50 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,500 to 7,500 feet (1,981 to 2,286 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Dermala and similar soils: 50 percent
 Rosced and similar soils: 35 percent
 Minor components: 15 percent

Component Descriptions

Dermala soils

Landscape: Uplands

Landform: Hills

Parent material: Old slope alluvium over colluvium derived from igneous and sedimentary rock

Slope: 20 to 50 percent

Surface fragments: About 35 percent gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 9.7 inches (high)

Shrink-swell potential: About 3.4 percent (moderate)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, galleta, muttongrass, sedge, sideoats grama

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 3 inches; very gravelly loam

Bt—3 to 12 inches; clay loam

Btk1—12 to 32 inches; gravelly clay loam

Btk2,C—32 to 60 inches; clay loam

Rosced soils

Landscape: Uplands

Landform: Hills

Parent material: Slope alluvium derived from igneous rock

Slope: 20 to 50 percent

Surface fragments: About 45 percent gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 3.1 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 10 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, galleta, muttongrass, sedge, sideoats grama

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 5 inches; very gravelly sandy loam

Bw1—5 to 16 inches; gravelly sandy loam

Bw2 and Bk—16 to 33 inches; very gravelly sandy loam

2C—33 to 60 inches; very gravelly coarse sand

Minor Components

Chimayo and similar soils

Composition: About 5 percent

Slope: 20 to 50 percent

Depth to restrictive feature: 10 to 20 inches to bedrock, lithic

Drainage class: Well drained

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Orlie and similar soils

Composition: About 5 percent

Slope: 1 to 8 percent

Drainage class: Well drained

Ecological site: Loamy

Yarts and similar soils

Composition: About 5 percent

Slope: 1 to 4 percent

Drainage class: Well drained

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

146—Parida-Palacid very gravelly sandy loams, 10 to 40 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,800 to 7,200 feet (1,768 to 2,195 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Parida and similar soils: 45 percent

Palacid and similar soils: 40 percent

Minor components: 15 percent

Component Descriptions

Parida soils

Landscape: Uplands

Landform: Hills

Parent material: Slope alluvium over colluvium derived from igneous and sedimentary rock

Slope: 10 to 40 percent

Surface fragments: About 40 percent gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 5.2 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 2 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Gravelly Hills

Potential native vegetation: black grama, sideoats grama, galleta, blue grama, oneseed juniper, twoneedle pinyon

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 3 inches; very gravelly sandy loam

Bw—3 to 28 inches; gravelly sandy loam

Bk—28 to 65 inches; gravelly sandy loam

Palacid soils

Landscape: Uplands

Landform: Hills

Parent material: Slope alluvium over colluvium derived from igneous and sedimentary rock

Slope: 10 to 40 percent

Surface fragments: About 40 percent gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 10.1 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 10 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Gravelly Hills

Potential native vegetation: black grama, sideoats grama, galleta, blue grama, oneseed juniper, twoneedle pinyon

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 4 inches; very gravelly sandy loam
 AB and Bt—4 to 14 inches; loam
 Btk—14 to 45 inches; clay loam
 Bk—45 to 68 inches; gravelly clay loam

Minor Components

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock, lithic

Pena and similar soils

Composition: About 5 percent

Slope: 2 to 15 percent

Drainage class: Well drained

Ecological site: Pinus edulis-Juniperus monosperma/Cercocarpus montanus-Chrysothamnus nauseosus/Bouteloua gracilis

Yarts and similar soils

Composition: About 5 percent

Slope: 1 to 4 percent

Drainage class: Well drained

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

147—Dermala-Chimayo complex, 20 to 50 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 6,600 to 7,800 feet (2,012 to 2,377 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Dermala and similar soils: 45 percent

Chimayo and similar soils: 40 percent

Minor components: 15 percent

Component Descriptions**Dermala soils**

Landscape: Uplands

Landform: Hills

Parent material: Old slope alluvium over colluvium derived from igneous and sedimentary rock

Slope: 20 to 50 percent

Surface fragments: About 35 percent gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 8.6 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, galleta, muttongrass, sedge, sideoats grama

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 4 inches; very gravelly loam

Bt,C—4 to 60 inches; gravelly clay loam

Chimayo soils

Landscape: Uplands

Landform: Hills

Parent material: Slope alluvium derived from igneous and sedimentary rock

Slope: 20 to 50 percent

Surface fragments: About 40 percent gravel

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock, lithic

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 0.8 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: sideoats grama, blue grama, prairie junegrass, mountain mahogany,
oneseed juniper, twoneedle pinyon

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 3 inches; very gravelly sandy loam

C—3 to 13 inches; gravelly sandy loam

R—13 to 60 inches; bedrock

Minor Components

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock, lithic

Florita and similar soils

Composition: About 5 percent*Slope:* 2 to 6 percent*Drainage class:* Well drained*Ecological site:* Loamy

Palacid and similar soils

Composition: About 5 percent*Slope:* 10 to 40 percent*Drainage class:* Well drained*Ecological site:* Gravelly Hills**148—Chita loam, 0 to 5 percent slopes****Map Unit Setting***Major Land Resource Area:* 36*Elevation:* 6,000 to 7,000 feet (1,829 to 2,134 meters)*Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 45 to 49 degrees F. (7.2 to 9.4 degrees C.)*Frost-free period:* 100 to 130 days**Map Unit Composition**

Chita and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Chita soils***Landscape:* Uplands*Landform:* Summits mesas*Parent material:* Eolian deposits over slope alluvium derived from igneous and sedimentary rock*Slope:* 0 to 5 percent*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* 0.2 to 0.6 in/hr (moderately slow)*Available water capacity:* About 9.6 inches (high)*Shrink-swell potential:* About 3.0 percent (moderate)*Runoff class:* Low*Calcium carbonate average in horizon of maximum accumulation:* About 30 percent*Gypsum average in horizon of maximum accumulation:* None*Salinity average in horizon of maximum accumulation:* About 1 mmhos/cm (nonsaline)*Sodium adsorption ratio average in horizon of maximum accumulation:* None (nonsodic)*Ecological site:* Loamy*Potential native vegetation:* western wheatgrass, galleta, Indian ricegrass, needleandthread, big sagebrush, fourwing saltbush*Land capability subclass (nonirrigated):* 6c

Typical Profile:

- A—0 to 3 inches; loam
- BA and Bt—3 to 10 inches; loam
- Btk and Bk—10 to 38 inches; silty clay loam
- 2Bk—38 to 60 inches; gravelly sandy clay loam

Minor Components

Rock outcrop

- Composition:* About 5 percent
- Depth to restrictive feature:* 0 inches to bedrock, lithic

Dermala and similar soils

- Composition:* About 5 percent
- Slope:* 20 to 50 percent
- Drainage class:* Well drained
- Ecological site:* Pinus edulis/Rhus trilobata/Bouteloua gracilis

Pinavetes and similar soils

- Composition:* About 5 percent
- Slope:* 3 to 12 percent
- Drainage class:* Excessively drained
- Ecological site:* Sandy Slopes

149—Yarts sandy loam, 1 to 4 percent slopes**Map Unit Setting**

- Major Land Resource Area:* 36
- Elevation:* 5,800 to 6,500 feet (1,768 to 1,981 meters)
- Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)
- Mean annual air temperature:* 48 to 52 degrees F. (8.9 to 11.1 degrees C.)
- Frost-free period:* 120 to 140 days

Map Unit Composition

- Yarts and similar soils: 80 percent
- Minor components: 20 percent

Component Descriptions**Yarts soils**

- Landscape:* Valleys
- Landform:* Stream terraces
- Parent material:* Stream alluvium derived from sandstone and shale
- Slope:* 1 to 4 percent
- Depth class:* Very deep
- Drainage class:* Well drained
- Slowest permeability:* 2.0 to 6.0 in/hr (moderately rapid)
- Available water capacity:* About 7.1 inches (moderate)
- Shrink-swell potential:* About 1.5 percent (low)
- Runoff class:* Very low
- Calcium carbonate average in horizon of maximum accumulation:* About 10 percent
- Gypsum average in horizon of maximum accumulation:* About 1 percent

Salinity average in horizon of maximum accumulation: About 2 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 3
(slightly sodic)

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Potential native vegetation: sand dropseed, Indian ricegrass, Mormon tea

Land capability subclass (irrigated): 2s

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; sandy loam

C—3 to 60 inches; fine sandy loam

Minor Components

Palacid and similar soils

Composition: About 10 percent

Slope: 10 to 40 percent

Drainage class: Well drained

Ecological site: Gravelly Hills

Pinavetes and similar soils

Composition: About 9 percent

Slope: 3 to 12 percent

Drainage class: Excessively drained

Ecological site: Sandy Slopes

Riverwash

Composition: About 1 percent

Slope: 0 to 3 percent

Flooding hazard: Frequent

151—Razito-Fruitland complex, 1 to 5 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,500 to 6,500 feet (1,676 to 1,981 meters)

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 50 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 140 to 160 days

Map Unit Composition

Razito and similar soils: 45 percent

Fruitland and similar soils: 40 percent

Minor components: 15 percent

Component Descriptions

Razito soils

Landscape: Uplands

Landform: Dunes

Parent material: Eolian deposits derived from sandstone

Slope: 1 to 5 percent

Depth class: Very deep

Drainage class: Somewhat excessively drained



Figure 15.—Typical landscape of Razito-Fruitland complex, 1 to 5 percent slopes.

Slowest permeability: 6.0 to 20 in/hr (rapid)

Available water capacity: About 4.1 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very low

Calcium carbonate average in horizon of maximum accumulation: About 4 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Deep Sand

Potential native vegetation: Indian ricegrass, blue grama, black grama, galleta, sand
sagebrush, western wheatgrass

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 4 inches; loamy sand

C—4 to 60 inches; loamy sand

Fruitland soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from sandstone

Slope: 1 to 5 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 6.7 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Very low

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 2 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 1
(slightly sodic)

Ecological site: Sandy

Potential native vegetation: blue grama, western wheatgrass, bottlebrush squirreltail,
dropseed, needleandthread

Land capability subclass (irrigated): 3e

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 3 inches; sandy loam

C1—3 to 50 inches; fine sandy loam

C2—50 to 60 inches; loamy fine sand

Minor Components

Jocity and similar soils

Composition: About 14 percent

Slope: 0 to 1 percent

Drainage class: Well drained

Ecological site: Loamy

Riverwash

Composition: About 1 percent

Slope: 0 to 3 percent

Flooding hazard: Frequent

170—Sedillo cobbly loam, 0 to 5 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,500 to 7,200 feet (1,981 to 2,195 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Sedillo and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Sedillo soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 0 to 5 percent

Surface fragments: About 20 percent cobbles

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 4.9 inches (low)

Shrink-swell potential: About 2.8 percent (low)

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 23 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Stony Loam

Potential native vegetation: spike muhly, western wheatgrass, big sagebrush, New Mexico Feathergrass, blue grama, galleta, fourwing saltbush, winterfat

Land capability subclass (irrigated): 3s

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 12 inches; cobbly loam

Bt and Btk—12 to 36 inches; cobbly sandy clay loam

Bk—36 to 60 inches; very cobbly sandy loam

Minor Components

Florita and similar soils

Composition: About 8 percent

Slope: 2 to 6 percent

Drainage class: Well drained

Ecological site: Loamy

Oelop and similar soils

Composition: About 7 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

173—Oelop fine sandy loam, 1 to 5 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,900 to 6,700 feet (1,798 to 2,042 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Oelop and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Oelop soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from sandstone and shale

Slope: 1 to 5 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 10.0 inches (high)

Shrink-swell potential: About 3.7 percent (moderate)

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 10 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 3 mmhos/cm (very slightly saline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, spike muhly, alkali sacaton, bottlebrush squirreltail, fourwing saltbush, galleta, winterfat

Land capability subclass (irrigated): 3e

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 5 inches; fine sandy loam

Bt,Btk,Bk1—5 to 45 inches; clay loam

Bk2—45 to 60 inches; sandy loam

Minor Components

Espiritu and similar soils

Composition: About 8 percent

Slope: 35 to 60 percent

Drainage class: Well drained

Ecological site: Gravelly Hills

Wauquie and similar soils

Composition: About 7 percent

Slope: 35 to 60 percent

Drainage class: Well drained

Ecological site: Pinus edulis-Juniperus monosperma/Cercocarpus montanus-Chrysothamnus nauseosus/Bouteloua gracilis

180—Oelop loam, 0 to 5 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,500 to 7,200 feet (1,981 to 2,195 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Oelop and similar soils: 90 percent

Minor components: 10 percent

Component Descriptions

Oelop soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 0 to 5 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 11.2 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 6 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 3 mmhos/cm (very slightly saline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, spike muhly, alkali sacaton, bottlebrush squirreltail, fourwing saltbush, galleta, winterfat

Land capability subclass (irrigated): 3e

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 1 inches; loam

Bt,Bk—1 to 60 inches; clay loam

Minor Components

Florita and similar soils

Composition: About 5 percent

Slope: 2 to 6 percent

Drainage class: Well drained

Ecological site: Loamy

Sedillo and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Ecological site: Stony Loam

182—Oelop sandy loam, 5 to 9 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,500 to 7,200 feet (1,981 to 2,195 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Oelop and similar soils: 90 percent

Minor components: 10 percent

Component Descriptions**Oelop soils**

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 5 to 9 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 9.6 inches (high)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 10 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 3 mmhos/cm (very slightly saline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Loamy

Potential native vegetation: western wheatgrass, big sagebrush, galleta, Indian ricegrass, needleandthread, fourwing saltbush

Land capability subclass (irrigated): 4e

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; sandy loam

Bt—3 to 11 inches; clay loam

Bk—11 to 60 inches; sandy clay loam

Minor Components

Florita and similar soils

Composition: About 5 percent

Slope: 2 to 6 percent

Drainage class: Well drained

Ecological site: Loamy

Sedillo and similar soils

Composition: About 5 percent

Slope: 0 to 3 percent

Drainage class: Well drained

Ecological site: Stony Loam

190—Sedillo loam, 0 to 3 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 6,500 to 7,200 feet (1,981 to 2,195 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Sedillo and similar soils: 90 percent

Minor components: 10 percent

Component Descriptions

Sedillo soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 0 to 3 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 4.3 inches (low)

Shrink-swell potential: About 2.6 percent (low)

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 23 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Stony Loam

Potential native vegetation: spike muhly, western wheatgrass, big sagebrush, New Mexico Feathergrass, blue grama, galleta, fourwing saltbush, winterfat

Land capability subclass (irrigated): 3e

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 5 inches; loam

Bt and Btk—5 to 25 inches; cobbly sandy clay loam

Bk—25 to 60 inches; very cobbly sandy loam

Minor Components

Florita and similar soils

Composition: About 5 percent

Slope: 2 to 6 percent

Drainage class: Well drained

Ecological site: Loamy

Oelop and similar soils

Composition: About 5 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

200—Katlon silt loam, 25 to 45 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 8,500 to 9,500 feet (2,591 to 2,896 meters)

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Map Unit Composition

Katlon and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Katlon soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Colluvium derived from igneous and sedimentary rock

Slope: 25 to 45 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 11.6 inches (high)

Shrink-swell potential: About 3.0 percent (moderate)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: None mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Pseudotsuga menziesii-Abies concolor/Quercus gambelii-Symphoricarpos albus/Festuca arizonica-Carex geyeri

Potential native vegetation:

Common trees: white fir, corkbark fir, Engelmann spruce, quaking aspen, Douglas-fir

Other plants: sedge, mountain muhly, vaccinium, bluegrass

Land capability subclass (nonirrigated): 7e

Typical Profile:

O—0 to 4 inches; slightly decomposed plant material

A—4 to 18 inches; silt loam

E—18 to 31 inches; silt loam

Bt—31 to 80 inches; silty clay loam

Minor Components

Angostura and similar soils

Composition: About 8 percent

Slope: 15 to 45 percent

Drainage class: Well drained

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

Hogg and similar soils

Composition: About 7 percent

Slope: 2 to 9 percent

Drainage class: Well drained

Ecological site: Mountain Valley

201—Lobat-Abreu gravelly loams, 15 to 60 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 8,200 to 9,800 feet (2,499 to 2,987 meters)

Mean annual precipitation: 25 to 28 inches (635 to 711 millimeters)

Mean annual air temperature: 40 to 44 degrees F. (4.4 to 6.7 degrees C.)

Frost-free period: 70 to 90 days

Map Unit Composition

Lobat and similar soils: 45 percent

Abreu and similar soils: 40 percent

Minor components: 15 percent

Component Descriptions

Lobat soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Colluvium derived from igneous rock

Slope: 15 to 60 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 8.5 inches (moderate)

Shrink-swell potential: About 4.3 percent (moderate)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pseudotsuga menziesii-Abies concolor/Quercus gambelii-
Symphoricarpos albus/Festuca arizonica-Carex geyeri

Potential native vegetation:

Common trees: white fir, corkbark fir, Engelmann spruce, quaking aspen,
Douglas-fir

Other plants: sedge, mountain muhly, vaccinium, bluegrass

Land capability subclass (nonirrigated): 7e

Typical Profile:

O—0 to 1 inches; slightly decomposed plant material

A—1 to 7 inches; gravelly loam

Bt—7 to 48 inches; gravelly clay loam

C—48 to 60 inches; gravelly sandy clay loam

Abreu soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Colluvium derived from igneous rock

Slope: 15 to 60 percent

Depth class: Deep

Depth to restrictive feature: 40 to 60 inches to bedrock, lithic

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 6.1 inches (moderate)

Shrink-swell potential: About 3.9 percent (moderate)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pseudotsuga menziesii-Abies concolor/Quercus gambelii-
Symphoricarpos albus/Festuca arizonica-Carex geyeri

Potential native vegetation:

Common trees: white fir, corkbark fir, Engelmann spruce, quaking aspen,
Douglas-fir

Other plants: sedge, mountain muhly, vaccinium, bluegrass

Land capability subclass (nonirrigated): 7e

Typical Profile:

Oi—0 to 2 inches; slightly decomposed plant material

A—2 to 4 inches; gravelly loam

E—4 to 15 inches; very gravelly loam

Bt—15 to 58 inches; very gravelly clay loam

R—58 to 60 inches; bedrock

Minor Components

Angostura and similar soils

Composition: About 5 percent

Slope: 15 to 45 percent

Drainage class: Well drained

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

Elbuck and similar soils

Composition: About 5 percent

Slope: 5 to 20 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Festuca arizonica

Nabor and similar soils

Composition: About 5 percent

Slope: 5 to 35 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Festuca arizonica

203—Nabor-Elbuck complex, 5 to 35 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,700 to 8,900 feet (2,347 to 2,713 meters)

Mean annual precipitation: 25 to 28 inches (635 to 711 millimeters)

Mean annual air temperature: 40 to 44 degrees F. (4.4 to 6.7 degrees C.)

Frost-free period: 70 to 90 days

Map Unit Composition

Nabor and similar soils: 55 percent

Elbuck and similar soils: 30 percent

Minor components: 15 percent

Component Descriptions

Nabor soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Slope alluvium derived from shale

Slope: 5 to 35 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 10.6 inches (high)

Shrink-swell potential: About 6.8 percent (high)

Runoff class: Very high

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Festuca arizonica

Potential native vegetation:

Common trees: ponderosa pine, Douglas-fir

Other plants: Arizona fescue, mountain muhly, vaccinium, Gambel oak, brome

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 6 inches; silty clay loam

Bt1—6 to 17 inches; silty clay loam

Bt2 and Bt3—17 to 37 inches; silty clay

Bk—37 to 60 inches; silty clay loam

Elbuck soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Slope alluvium over colluvium derived from sandstone and shale

Slope: 5 to 20 percent

Surface fragments: About 20 percent gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 8.6 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 1 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Festuca arizonica

Potential native vegetation:

Common trees: ponderosa pine, Douglas-fir

Other plants: Arizona fescue, mountain muhly, vaccinium, Gambel oak, brome

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 3 inches; gravelly loam

Bt1—3 to 14 inches; gravelly loam

Bt2 and C—14 to 60 inches; gravelly clay loam

Minor Components

Rombo and similar soils

Composition: About 9 percent

Slope: 5 to 25 percent

Depth to restrictive feature: 20 to 40 inches to bedrock, paralithic

Drainage class: Well drained

Ecological site: Mountain Shale

Wiggler and similar soils

Composition: About 5 percent

Slope: 5 to 25 percent

Depth to restrictive feature: 10 to 20 inches to bedrock, paralithic

Drainage class: Well drained

Ecological site: Mountain Shale

Tottles and similar soils

Composition: About 1 percent

Slope: 0 to 2 percent

Drainage class: Poorly drained

Ecological site: Mountain Meadow

206—Angostura-Gromes complex, 15 to 35 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 9,700 to 11,000 feet (2,957 to 3,353 meters)

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Map Unit Composition

Angostura and similar soils: 60 percent
 Gromes and similar soils: 25 percent
 Minor components: 15 percent

Component Descriptions

Angostura soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Slope alluvium over colluvium derived from igneous rock

Slope: 15 to 35 percent

Surface fragments: About 17 percent cobbles

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 5.5 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: None mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
 (nonsodic)

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

Potential native vegetation:

Common trees: corkbark fir, Engelmann spruce

Other plants: vaccinium, Thurber fescue, geranium, mountain muhly, strawberry

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 4 inches; cobbly loam

E and Bt1—4 to 43 inches; very cobbly clay loam

Bt2 and C—43 to 60 inches; extremely gravelly clay loam

Gromes soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Slope alluvium over colluvium derived from igneous and metamorphic rock

Slope: 15 to 35 percent

Surface fragments: About 20 percent gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 8.2 inches (moderate)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
 (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
 (nonsodic)

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

Potential native vegetation:

Common trees: corkbark fir, Engelmann spruce

Other plants: vaccinium, Thurber fescue, geranium, mountain muhly, strawberry

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; gravelly loam

Bw,C—3 to 60 inches; very cobbly clay loam

Minor Components

Bracos and similar soils

Composition: About 5 percent

Slope: 40 to 80 percent

Depth to restrictive feature: 20 to 40 inches to bedrock, lithic

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Abies concolor/Quercus gambelii-

Symphoricarpos albus/Festuca arizonica-Carex geyeri

Bywell and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification

Drainage class: Poorly drained

Flooding hazard: Frequent

Ecological site: Mountain Meadow

Croftshaw and similar soils

Composition: About 5 percent

Slope: 5 to 15 percent

Drainage class: Well drained

Ecological site: Subalpine Grassland

207—Gromes-Rock outcrop complex, 15 to 40 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 10,000 to 10,700 feet (3,048 to 3,261 meters)

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Map Unit Composition

Gromes and similar soils: 65 percent

Rock outcrop: 20 percent

Minor components: 15 percent

Component Descriptions**Gromes soils**

Landscape: Mountains

Landform: Mountain slopes

Parent material: Slope alluvium over colluvium derived from igneous rock

Slope: 15 to 40 percent

Surface fragments: About 25 percent cobbles

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 8.2 inches (moderate)

Shrink-swell potential: About 4.1 percent (moderate)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

Potential native vegetation:

Common trees: corkbark fir, Engelmann spruce

Other plants: vaccinium, Thurber fescue, geranium, mountain muhly, strawberry

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 11 inches; cobbly loam

Bw,C—11 to 60 inches; very cobbly loam

Rock outcrop

Depth to restrictive feature: 0 inches to bedrock, lithic

Minor Components

Bywell and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification

Drainage class: Poorly drained

Flooding hazard: Frequent

Ecological site: Mountain Meadow

Croftshaw and similar soils

Composition: About 5 percent

Slope: 5 to 15 percent

Drainage class: Well drained

Ecological site: Subalpine Grassland

Crubas and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Drainage class: Poorly drained

Flooding hazard: Frequent

Ecological site: Mountain Meadow

208—Ess-Croftshaw complex, 3 to 20 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 9,500 to 10,400 feet (2,896 to 3,170 meters)

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Map Unit Composition

Ess and similar soils: 45 percent

Croftshaw and similar soils: 35 percent

Minor components: 20 percent

Component Descriptions

Ess soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Slope alluvium over colluvium derived from igneous rock

Slope: 3 to 15 percent

Surface fragments: About 20 percent gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 5.6 inches (low)

Shrink-swell potential: About 3.0 percent (low)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: None mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Subalpine Grassland

Potential native vegetation: mountain brome, Thurber fescue, mountain muhly,
Arizona fescue, needlegrass, tufted hairgrass

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 13 inches; gravelly loam

Bt—13 to 40 inches; very cobbly sandy clay loam

C—40 to 60 inches; very gravelly sandy clay loam

Croftshaw soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Colluvium derived from igneous rock

Slope: 3 to 20 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 11.5 inches (high)

Shrink-swell potential: About 4.2 percent (moderate)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Subalpine Grassland

Potential native vegetation: mountain brome, Thurber fescue, mountain muhly,
Arizona fescue, needlegrass, tufted hairgrass

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 10 inches; loam

Bt—10 to 60 inches; clay loam

Minor Components

Bywell and similar soils

Composition: About 8 percent

Slope: 0 to 2 percent

Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural stratification

Drainage class: Poorly drained

Flooding hazard: Frequent

Ecological site: Mountain Meadow

Crubas and similar soils

Composition: About 7 percent

Slope: 0 to 2 percent

Drainage class: Poorly drained

Flooding hazard: Frequent

Ecological site: Mountain Meadow

Gromes and similar soils

Composition: About 5 percent

Slope: 15 to 40 percent

Drainage class: Well drained

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

209—Crubas-Bywell-Croftshaw complex, 0 to 15 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 9,700 to 10,400 feet (2,957 to 3,170 meters)

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Map Unit Composition

Crubas and similar soils: 40 percent

Bywell and similar soils: 30 percent

Croftshaw and similar soils: 20 percent

Minor components: 10 percent

Component Descriptions

Crubas soils

Landscape: Valleys

Landform: Stream terraces, swales

Parent material: Stream alluvium derived from igneous rock

Slope: 0 to 2 percent

Depth class: Very deep

Drainage class: Poorly drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 9.3 inches (high)

Shrink-swell potential: About 6.3 percent (high)

Flooding hazard: Frequent

Seasonal high water table depth: 0 to 20 inches

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Mountain Meadow

Potential native vegetation: tufted hairgrass, sedge, bulrush, mountain brome,
western wheatgrass, clover, red fescue, shrubby cinquefoil

Land capability subclass (nonirrigated): 6c

Typical Profile:

Oi—0 to 3 inches; slightly decomposed plant material

A—3 to 15 inches; clay loam

Cg—15 to 37 inches; clay

2Cg—37 to 60 inches; gravelly clay

Bywell soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from igneous rock

Slope: 0 to 2 percent

Depth class: Very deep

Depth to restrictive feature: 40 to 60 inches to strongly contrasting textural
stratification

Drainage class: Poorly drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 3.5 inches (low)

Shrink-swell potential: About 1.0 percent (low)

Flooding hazard: Frequent

Seasonal high water table depth: 0 to 30 inches

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Mountain Meadow

Potential native vegetation: tufted hairgrass, sedge, bulrush, mountain brome, western wheatgrass, clover, red fescue, shrubby cinquefoil

Land capability subclass (nonirrigated): 6c

Typical Profile:

A1—0 to 4 inches; silt loam

A2—4 to 11 inches; loam

2C and 2Cg—11 to 42 inches; very cobbly coarse sandy loam

3Cg—42 to 60 inches; fragmental material

Croftshaw soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Colluvium derived from igneous rock

Slope: 5 to 15 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 9.1 inches (high)

Shrink-swell potential: About 2.6 percent (low)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Subalpine Grassland

Potential native vegetation: sedge, sheep fescue, Thurber fescue, clover, muttongrass

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 8 inches; loam

Bt—8 to 28 inches; clay loam

2C—28 to 60 inches; sandy loam

Minor Components

Gromes and similar soils

Composition: About 9 percent

Slope: 15 to 40 percent

Drainage class: Well drained

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

Riverwash

Composition: About 1 percent

Slope: 0 to 3 percent

Flooding hazard: Frequent

210—Rock outcrop-Bracos complex, 40 to 80 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 8,500 to 9,900 feet (2,591 to 3,018 meters)

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Map Unit Composition

Rock outcrop: 60 percent

Bracos and similar soils: 30 percent

Minor components: 10 percent

Component Descriptions

Rock outcrop

Depth to restrictive feature: 0 inches to bedrock, lithic

Bracos soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Slope alluvium over colluvium derived from igneous rock

Slope: 40 to 80 percent

Depth class: Moderately deep

Depth to restrictive feature: 20 to 40 inches to bedrock, lithic



Figure 16.—Typical landscape of Rock outcrop-Bracos complex, 40 to 80 percent slopes.

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 2.8 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pseudotsuga menziesii-Abies concolor/Quercus gambelii-
Symphoricarpos albus/Festuca arizonica-Carex geyeri

Potential native vegetation:

Common trees: white fir, corkbark fir, Engelmann spruce, quaking aspen,
Douglas-fir

Other plants: sedge, mountain muhly, vaccinium, bluegrass

Land capability subclass (nonirrigated): 7e

Typical Profile:

Oi—0 to 3 inches; slightly decomposed plant material

A—3 to 8 inches; very stony loam

C1—8 to 21 inches; very stony loam

C2—21 to 32 inches; extremely stony sandy loam

R—32 to 60 inches; bedrock

Minor Components

Angostura and similar soils

Composition: About 5 percent

Slope: 15 to 45 percent

Drainage class: Well drained

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

Gromes and similar soils

Composition: About 5 percent

Slope: 15 to 40 percent

Drainage class: Well drained

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

211—Angostura very cobbly loam, 15 to 40 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 9,200 to 10,400 feet (2,804 to 3,170 meters)

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Map Unit Composition

Angostura and similar soils: 90 percent

Minor components: 10 percent

Component Descriptions

Angostura soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Colluvium derived from igneous rock

Slope: 15 to 40 percent

Surface fragments: About 35 percent cobbles

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 4.6 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: None mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

Potential native vegetation:

Common trees: corkbark fir, Engelmann spruce

Other plants: vaccinium, Thurber fescue, geranium, mountain muhly, strawberry

Land capability subclass (nonirrigated): 7e

Typical Profile:

A and E—0 to 8 inches; very cobbly loam

Bt and C—8 to 60 inches; very cobbly clay loam

Minor Components

Croftshaw and similar soils

Composition: About 5 percent

Slope: 5 to 15 percent

Drainage class: Well drained

Ecological site: Subalpine Grassland

Saragote and similar soils

Composition: About 5 percent

Slope: 2 to 5 percent

Drainage class: Somewhat poorly drained

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

214—Quimera-Vamer very channery clay loams, 10 to 35 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 6,900 to 7,400 feet (2,103 to 2,256 meters)

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Quimera and similar soils: 60 percent
Vamer and similar soils: 25 percent
Minor components: 15 percent

Component Descriptions

Quimera soils

Landscape: Uplands

Landform: Hills

Parent material: Slope alluvium over colluvium derived from sandstone and shale

Slope: 15 to 35 percent

Surface fragments: About 50 percent channers

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock, lithic

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 3.0 inches (very low)

Shrink-swell potential: About 5.0 percent (moderate)

Runoff class: Very high

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 3 mmhos/cm (very slightly saline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 2 (slightly sodic)

Ecological site: Mountain Brush

Potential native vegetation: western wheatgrass, Arizona fescue, Gambel oak, big sagebrush, prairie junegrass, bottlebrush squirreltail, spike muhly

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; very channery clay loam

Bw and BC—3 to 15 inches; clay loam

C—15 to 17 inches; clay

R—17 to 60 inches; bedrock

Vamer soils

Landscape: Uplands

Landform: Hills

Parent material: Slope alluvium over colluvium derived from sandstone and shale

Slope: 10 to 35 percent

Surface fragments: About 50 percent channers

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock, lithic

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 2.9 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Very high

Calcium carbonate average in horizon of maximum accumulation: About 3 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Mountain Brush

Potential native vegetation: western wheatgrass, Arizona fescue, Gambel oak, big sagebrush, prairie junegrass, bottlebrush squirreltail, spike muhly

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 3 inches; very channery clay loam

Bt—3 to 19 inches; clay

R—19 to 60 inches; bedrock

Minor Components

Capillo and similar soils

Composition: About 5 percent

Slope: 3 to 10 percent

Drainage class: Well drained

Ecological site: Mountain Loam

Carjo and similar soils

Composition: About 5 percent

Slope: 5 to 20 percent

Depth to restrictive feature: 20 to 40 inches to bedrock, lithic

Drainage class: Well drained

Ecological site: Pinus ponderosa-Juniperus scopulorum/Quercus gambelii

Suposo and similar soils

Composition: About 5 percent

Slope: 1 to 6 percent

Drainage class: Well drained

Ecological site: Mountain Shale

215—Saragote-Ess complex, 2 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 9,500 to 11,400 feet (2,896 to 3,475 meters)

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Map Unit Composition

Saragote and similar soils: 45 percent

Ess and similar soils: 35 percent

Minor components: 20 percent

Component Descriptions

Saragote soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Slope alluvium derived from igneous rock

Slope: 2 to 5 percent

Depth class: Very deep

Drainage class: Somewhat poorly drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 7.7 inches (moderate)

Shrink-swell potential: About 6.9 percent (high)

Seasonal high water table depth: About 24 to 42 inches

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

Potential native vegetation:

Common trees: corkbark fir, Engelmann spruce

Other plants: vaccinium, Thurber fescue, geranium, mountain muhly, strawberry

Land capability subclass (nonirrigated): 6c

Typical Profile:

Oi—0 to 1 inches; slightly decomposed plant material

A—1 to 9 inches; loam

Bt and C—9 to 60 inches; very cobbly clay loam

Ess soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Slope alluvium over colluvium derived from igneous rock

Slope: 2 to 8 percent

Surface fragments: About 20 percent gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 5.5 inches (low)

Shrink-swell potential: About 3.0 percent (moderate)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: None mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Subalpine Grassland

Potential native vegetation: mountain brome, Thurber fescue, mountain muhly,

Arizona fescue, needlegrass, tufted hairgrass

Land capability subclass (nonirrigated): 6s

Typical Profile:

A—0 to 12 inches; gravelly loam

Bt—12 to 40 inches; very cobbly clay loam

C—40 to 60 inches; very gravelly sandy clay loam

Minor Components

Angostura and similar soils

Composition: About 8 percent

Slope: 15 to 45 percent

Drainage class: Well drained

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

Croftshaw and similar soils

Composition: About 7 percent

Slope: 5 to 15 percent

Drainage class: Well drained

Ecological site: Subalpine Grassland

Crubas and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Drainage class: Poorly drained

Flooding hazard: Frequent

Ecological site: Mountain Meadow

216—Angostura very cobbly sandy loam, 15 to 45 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 9,500 to 10,500 feet (2,896 to 3,200 meters)

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Map Unit Composition

Angostura and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Angostura soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Slope alluvium over colluvium derived from igneous rock

Slope: 15 to 45 percent

Surface fragments: About 35 percent cobbles

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 3.7 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: None mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

Potential native vegetation:

Common trees: corkbark fir, Engelmann spruce

Other plants: vaccinium, Thurber fescue, geranium, mountain muhly, strawberry

Land capability subclass (nonirrigated): 7e

Typical Profile:

A and E—0 to 12 inches; very cobbly sandy loam

Bt and C—12 to 60 inches; extremely gravelly sandy clay loam

Minor Components

Croftshaw and similar soils

Composition: About 8 percent

Slope: 5 to 15 percent

Drainage class: Well drained

Ecological site: Subalpine Grassland

Ess and similar soils

Composition: About 7 percent

Slope: 3 to 15 percent

Drainage class: Well drained

Ecological site: Subalpine Grassland

220—Rock outcrop-Vessilla-Menefee complex, 15 to 45 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,100 to 7,200 feet (1,859 to 2,195 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Rock outcrop: 40 percent

Vessilla and similar soils: 30 percent

Menefee and similar soils: 20 percent

Minor components: 10 percent

Component Descriptions

Rock outcrop

Depth to restrictive feature: 0 inches to bedrock, lithic

Vessilla soils

Landscape: Uplands

Landform: Breaks

Parent material: Slope alluvium over residuum weathered from sandstone

Slope: 15 to 45 percent

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock, lithic

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 1.3 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 1
(slightly sodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua
gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, galleta, Indian ricegrass, mountain big sagebrush, oak,
sideoats grama

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 2 inches; sandy loam

C—2 to 10 inches; sandy loam

R—10 to 60 inches; bedrock

Menefee soils

Landscape: Uplands

Landform: Breaks

Parent material: Colluvium over residuum weathered from shale

Slope: 15 to 45 percent

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock, paralithic

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 2.0 inches (very low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Very high

Calcium carbonate average in horizon of maximum accumulation: About 8 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 3
(slightly sodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua
gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, galleta, Gambel oak, big sagebrush, sideoats grama

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 1 inches; clay loam

C—1 to 10 inches; clay loam

Cr—10 to 60 inches; bedrock

Minor Components

Rubble land

Composition: About 5 percent

Badland

Composition: About 5 percent

Slope: 1 to 50 percent

Depth to restrictive feature: 0 inches to bedrock, paralithic

Drainage class: Somewhat excessively drained

228—Suposo-Brycan complex, 1 to 6 percent slopes**Map Unit Setting**

Major Land Resource Area: 48A

Elevation: 6,900 to 7,400 feet (2,103 to 2,256 meters)

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Suposo and similar soils: 50 percent

Brycan and similar soils: 35 percent

Minor components: 15 percent

Component Descriptions**Suposo soils**

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from shale

Slope: 1 to 6 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 9.6 inches (high)

Shrink-swell potential: About 7.5 percent (high)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 13 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Mountain Shale

Potential native vegetation: western wheatgrass, alkali sacaton, bottlebrush
squirreltail, prairie junegrass

Land capability subclass (nonirrigated): 4c

Typical Profile:

A—0 to 4 inches; clay loam

Bt—4 to 16 inches; clay

Btk—16 to 31 inches; clay

BCK—31 to 60 inches; clay

Brycan soils*Landscape:* Valleys*Landform:* Stream terraces*Parent material:* Stream alluvium derived from sandstone and shale*Slope:* 1 to 3 percent*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* 0.6 to 2.0 in/hr (moderate)*Available water capacity:* About 10.5 inches (high)*Shrink-swell potential:* About 1.5 percent (low)*Flooding hazard:* Occasional*Runoff class:* Low*Calcium carbonate average in horizon of maximum accumulation:* None*Gypsum average in horizon of maximum accumulation:* None*Salinity average in horizon of maximum accumulation:* None mmhos/cm (nonsaline)*Sodium adsorption ratio average in horizon of maximum accumulation:* None
(nonsodic)*Ecological site:* Mountain Shale*Potential native vegetation:* Arizona fescue, needleandthread, little bluestem, western
wheatgrass*Land capability subclass (nonirrigated):* 6w*Typical Profile:*

A—0 to 10 inches; loam

Bw and C—10 to 60 inches; clay loam

Minor Components

Quimera and similar soils

Composition: About 8 percent*Slope:* 15 to 35 percent*Depth to restrictive feature:* 10 to 20 inches to bedrock, lithic*Drainage class:* Well drained*Ecological site:* Mountain Brush

Vamer and similar soils

Composition: About 7 percent*Slope:* 10 to 35 percent*Depth to restrictive feature:* 10 to 20 inches to bedrock, lithic*Drainage class:* Well drained*Ecological site:* Mountain Brush**230—Badland****Map Unit Setting***Major Land Resource Area:* 36**Map Unit Composition**

Badland: 90 percent

Minor components: 10 percent

Component Descriptions

Badland

Landscape: Uplands

Landform: Breaks, hills

Parent material: Shale

Slope: 1 to 50 percent

Depth to restrictive feature: 0 inches to bedrock, paralithic

Drainage class: Somewhat excessively drained

Runoff class: Very high

Land capability subclass (nonirrigated): 8

Minor Components

Menefee and similar soils

Composition: About 10 percent

Slope: 8 to 25 percent

Depth to restrictive feature: 10 to 20 inches to bedrock, paralithic

Drainage class: Well drained

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

240—Riverwash

Map Unit Setting

Major Land Resource Area: 36

Map Unit Composition

Riverwash, gravelly: 100 percent

Component Descriptions

Riverwash, gravelly

Landscape: Valleys

Landform: Flood plains, streams

Parent material: Stream alluvium derived from sedimentary rock

Slope: 0 to 3 percent

Surface fragments: About 8 percent gravel, about 60 percent (shape or size unspecified)

Slowest permeability: 6.0 to 20 in/hr (rapid)

Available water capacity: About 2.8 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Frequent

Seasonal high water table depth: 0 to 24 inches

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 1 (slightly sodic)

Land capability subclass (nonirrigated): 8w

241—Florita-Rock outcrop complex, 15 to 45 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 5,700 to 6,900 feet (1,737 to 2,103 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Florita and similar soils: 55 percent

Rock outcrop: 25 percent

Minor components: 20 percent

Component Descriptions

Florita soils

Landscape: Uplands

Landform: Hills

Parent material: Eolian deposits over slope alluvium derived from sandstone

Slope: 15 to 45 percent

Surface fragments: About 22 percent gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 7.0 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 3 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 7
(slightly sodic)

Ecological site: Gravelly Hills

Potential native vegetation: black grama, sideoats grama, blue grama, hairy grama, muttongrass, needleandthread, oneseed juniper, twoneedle pinyon

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 3 inches; gravelly fine sandy loam

C1—3 to 38 inches; sandy loam

C2—38 to 60 inches; sandy loam

Rock outcrop

Depth to restrictive feature: 0 inches to bedrock, lithic

Minor Components

Dermala and similar soils

Composition: About 8 percent

Slope: 20 to 50 percent

Drainage class: Well drained

Ecological site: Pinus edulis/Rhus trilobata/Bouteloua gracilis

Losmarios and similar soils

Composition: About 7 percent
Slope: 10 to 35 percent
Drainage class: Well drained
Ecological site: Gravelly

Parida and similar soils

Composition: About 5 percent
Slope: 10 to 40 percent
Drainage class: Well drained
Ecological site: Gravelly Hills

242—Tinaja-Rock outcrop complex, 45 to 75 percent slopes

Map Unit Setting

Major Land Resource Area: 36
Elevation: 5,800 to 7,800 feet (1,768 to 2,377 meters)
Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)
Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)
Frost-free period: 100 to 130 days

Map Unit Composition

Tinaja and similar soils: 50 percent
 Rock outcrop: 30 percent
 Minor components: 20 percent

Component Descriptions

Tinaja soils

Landscape: Uplands
Landform: Escarpments
Parent material: Colluvium derived from sandstone
Slope: 45 to 75 percent
Surface fragments: About 60 percent gravel
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.6 to 2.0 in/hr (moderate)
Available water capacity: About 5.6 inches (low)
Shrink-swell potential: About 1.5 percent (low)
Runoff class: High
Calcium carbonate average in horizon of maximum accumulation: About 25 percent
Gypsum average in horizon of maximum accumulation: None
Salinity average in horizon of maximum accumulation: About 1 mmhos/cm (nonsaline)
Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)
Ecological site: Pinus edulis-Juniperus monosperma/Cercocarpus montanus-Chrysothamnus nauseosus/Bouteloua gracilis



Figure 17.—Typical landscape of Florita-Rock outcrop complex, 15 to 45 percent slopes in the foreground and Tinaja-Rock outcrop complex, 45 to 75 percent slopes in the background.

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, muttongrass, sideoats grama, galleta, true mountain mahogany

Land capability subclass (nonirrigated): 7e

Typical Profile:

A—0 to 4 inches; extremely gravelly loam

Bk1—4 to 43 inches; very cobbly sandy clay loam

2Bk2—43 to 60 inches; sandy loam

Rock outcrop

Depth to restrictive feature: 0 inches to bedrock, lithic

Minor Components

Chita and similar soils

Composition: About 8 percent

Slope: 0 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Menefee and similar soils

Composition: About 7 percent

Slope: 8 to 25 percent

Depth to restrictive feature: 10 to 20 inches to bedrock, paralithic

Menefee and similar soils*Composition:* About 7 percent*Slope:* 8 to 25 percent*Depth to restrictive feature:* 10 to 20 inches to bedrock, paralithic*Drainage class:* Well drained*Ecological site:* Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis**Teromote and similar soils***Composition:* About 5 percent*Slope:* 2 to 8 percent*Drainage class:* Well drained*Ecological site:* Loamy**243—Penistaja fine sandy loam, 2 to 8 percent slopes****Map Unit Setting***Major Land Resource Area:* 36*Elevation:* 6,000 to 6,600 feet (1,829 to 2,012 meters)*Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 48 to 50 degrees F. (8.9 to 10.0 degrees C.)*Frost-free period:* 120 to 140 days**Map Unit Composition**

Penistaja and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions**Penistaja soils***Landscape:* Uplands*Landform:* Summits mesas, fan remnants*Parent material:* Eolian deposits over fan alluvium derived from sandstone and shale*Slope:* 2 to 8 percent*Depth class:* Very deep*Drainage class:* Well drained*Slowest permeability:* 0.6 to 2.0 in/hr (moderate)*Available water capacity:* About 8.7 inches (moderate)*Shrink-swell potential:* About 1.5 percent (low)*Runoff class:* Medium*Calcium carbonate average in horizon of maximum accumulation:* About 8 percent*Gypsum average in horizon of maximum accumulation:* None*Salinity average in horizon of maximum accumulation:* About 1 mmhos/cm
(nonsaline)*Sodium adsorption ratio average in horizon of maximum accumulation:* None
(nonsodic)*Ecological site:* Loamy*Potential native vegetation:* blue grama, western wheatgrass, spike muhly, bottlebrush
squirrealtail, galleta, sand dropseed*Land capability subclass (nonirrigated):* 6c

Typical Profile:

- A—0 to 3 inches; fine sandy loam
- Bt1 and Bt2—3 to 18 inches; sandy clay loam
- Bk—18 to 60 inches; sandy loam

Minor Components

Losmarios and similar soils

Composition: About 8 percent

Slope: 10 to 35 percent

Drainage class: Well drained

Ecological site: Gravelly

Pinavetes and similar soils

Composition: About 7 percent

Slope: 3 to 12 percent

Drainage class: Excessively drained

Ecological site: Sandy Slopes

244—Scholle-Silver loams, 1 to 5 percent slopes**Map Unit Setting**

Major Land Resource Area: 36

Elevation: 6,000 to 6,800 feet (1,829 to 2,073 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Scholle and similar soils: 60 percent

Silver and similar soils: 30 percent

Minor components: 10 percent

Component Descriptions**Scholle soils**

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 1 to 5 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 6.9 inches (moderate)

Shrink-swell potential: About 3.8 percent (moderate)

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 23 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, spike muhly, bottlebrush squirreltail, needlegrass, winterfat

Land capability subclass (nonirrigated): 6c

Typical Profile:

- A and BA—0 to 7 inches; loam
- Btk1—7 to 17 inches; sandy clay loam
- Btk2—17 to 24 inches; gravelly clay loam
- Bk—24 to 60 inches; gravelly sandy clay loam

Silver soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from igneous and sedimentary rock

Slope: 1 to 5 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 9.4 inches (high)

Shrink-swell potential: About 6.1 percent (high)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 13 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, spike muhly, bottlebrush squirreltail, needlegrass, winterfat

Land capability subclass (nonirrigated): 6c

Typical Profile:

- A—0 to 2 inches; loam
- Bt and Btk—2 to 34 inches; clay loam
- Bk—34 to 48 inches; sandy clay loam
- C—48 to 60 inches; cobbly sandy clay loam

Minor Components

Losmarios and similar soils

Composition: About 5 percent

Slope: 10 to 35 percent

Drainage class: Well drained

Ecological site: Gravelly

Wenota and similar soils

Composition: About 5 percent

Slope: 1 to 6 percent

Drainage class: Well drained

Flooding hazard: Occasional

Ecological site: Clayey Bottomland

245—Maia-Manzano complex, 0 to 5 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 7,100 to 7,800 feet (2,164 to 2,377 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Maia and similar soils: 65 percent

Manzano and similar soils: 20 percent

Minor components: 15 percent

Component Descriptions

Maia soils

Landscape: Valleys

Landform: Stream terraces

Parent material: Stream alluvium derived from volcanic rock

Slope: 1 to 5 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.2 to 0.6 in/hr (moderately slow)

Available water capacity: About 8.0 inches (moderate)

Shrink-swell potential: About 2.3 percent (low)

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 23 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, spike muhly, bottlebrush
squirreltail, fourwing saltbush, galleta, other half shrubs, sand dropseed

Land capability subclass (nonirrigated): 6e

Typical Profile:

A and Bt1—0 to 10 inches; loam

Bt2—10 to 16 inches; clay loam

Btk—16 to 25 inches; gravelly clay loam

Bk—25 to 60 inches; gravelly loam

Manzano soils

Landscape: Valleys

Landform: Flood plains

Parent material: Stream alluvium derived from volcanic rock

Slope: 0 to 2 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 8.7 inches (moderate)

Shrink-swell potential: About 1.5 percent (low)

Flooding hazard: Occasional

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 10 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm

(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None

(nonsodic)

Ecological site: Swale

Potential native vegetation: western wheatgrass, alkali sacaton, big sagebrush,
fourwing saltbush, galleta

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; fine sandy loam

Bw and C1—3 to 49 inches; loam

2C2—49 to 60 inches; gravelly loamy sand

Minor Components

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock, lithic

Espiritu and similar soils

Composition: About 5 percent

Slope: 35 to 60 percent

Drainage class: Well drained

Ecological site: Gravelly Hills

Pena and similar soils

Composition: About 5 percent

Slope: 2 to 15 percent

Drainage class: Well drained

Ecological site: Pinus edulis-Juniperus monosperma/Cercocarpus montanus-
Chrysothamnus nauseosus/Bouteloua gracilis

246—Pena gravelly sandy loam, 2 to 15 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 7,100 to 7,800 feet (2,164 to 2,377 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Pena and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Pena soils

Landscape: Uplands

Landform: Bajadas, hills

Parent material: Fan alluvium derived from volcanic rock

Slope: 2 to 15 percent

Surface fragments: About 22 percent gravel

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 3.6 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 23 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 3
(slightly sodic)

Ecological site: Pinus edulis-Juniperus monosperma/Cercocarpus montanus-
Chrysothamnus nauseosus/Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: muttongrass, bottlebrush squirreltail, western wheatgrass, broom
snakeweed, mountain mahogany, muhly

Land capability subclass (nonirrigated): 6c

Typical Profile:

A1—0 to 2 inches; gravelly sandy loam

A2 and Bk1—2 to 30 inches; very cobbly sandy loam

Bk2 and Bk3—30 to 60 inches; very cobbly sandy loam

Minor Components

Maia and similar soils

Composition: About 5 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Manzano and similar soils

Composition: About 5 percent

Slope: 0 to 2 percent

Drainage class: Well drained

Flooding hazard: Occasional

Ecological site: Swale

Tinaja and similar soils

Composition: About 5 percent

Slope: 45 to 75 percent

Drainage class: Well drained

Ecological site: Pinus edulis-Juniperus monosperma/Cercocarpus montanus-
Chrysothamnus nauseosus/Bouteloua gracilis

247—Wenota silty clay loam, 1 to 6 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,000 to 6,800 feet (1,829 to 2,073 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Wenota and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Wenota soils

Landscape: Valleys

Landform: Flood plains

Parent material: Stream alluvium derived from sandstone and shale

Slope: 1 to 6 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 10.3 inches (high)

Shrink-swell potential: About 4.5 percent (moderate)

Flooding hazard: Occasional

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: About 4 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: About 3
(slightly sodic)

Ecological site: Clayey Bottomland

Potential native vegetation: western wheatgrass, alkali sacaton, blue grama, fourwing
saltbush, galleta, obtuse panicgrass

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 8 inches; silty clay loam

C—8 to 60 inches; clay

Minor Components

Scholle and similar soils

Composition: About 8 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Silver and similar soils

Composition: About 7 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

248—Hagerman-Silver fine sandy loams, 2 to 7 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,000 to 6,900 feet (1,829 to 2,103 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Hagerman and similar soils: 45 percent

Silver and similar soils: 40 percent

Minor components: 15 percent

Component Descriptions

Hagerman soils

Landscape: Uplands

Landform: Fan remnants

Parent material: Fan alluvium derived from sandstone and shale

Slope: 2 to 7 percent

Depth class: Moderately deep

Depth to restrictive feature: 20 to 40 inches to bedrock, lithic

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 3.8 inches (low)

Shrink-swell potential: About 4.5 percent (moderate)

Runoff class: Low

Calcium carbonate average in horizon of maximum accumulation: About 6 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, spike muhly, fourwing
saltbush, galleta, sand dropseed

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 3 inches; fine sandy loam

Bt and Btk—3 to 24 inches; sandy clay loam

R—24 to 60 inches; bedrock

Silver soils

Landscape: Uplands

Landform: Fan remnants

Parent material: Fan alluvium derived from sandstone and shale

Slope: 2 to 7 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 10.5 inches (high)

Shrink-swell potential: About 7.5 percent (high)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 13 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm

(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None

(nonsodic)

Ecological site: Loamy

Potential native vegetation: blue grama, western wheatgrass, spike muhly, bottlebrush squirreltail, needlegrass, winterfat

Land capability subclass (nonirrigated): 6c

Typical Profile:

A—0 to 4 inches; fine sandy loam

Bt,Bk,C—4 to 60 inches; clay loam

Minor Components

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock, lithic

Penistaja and similar soils

Composition: About 5 percent

Slope: 2 to 8 percent

Drainage class: Well drained

Ecological site: Loamy

Scholle and similar soils

Composition: About 5 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

249—Losmarios extremely cobbly sandy clay loam, 10 to 35 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,100 to 6,800 feet (1,859 to 2,073 meters)

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Map Unit Composition

Losmarios and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Losmarios soils

Landscape: Uplands

Landform: Alluvial fans

Parent material: Fan alluvium derived from sandstone and shale

Slope: 10 to 35 percent

Surface fragments: About 30 percent gravel, about 40 percent cobbles

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)

Available water capacity: About 8.5 inches (moderate)

Shrink-swell potential: About 7.3 percent (high)

Runoff class: Very high

Calcium carbonate average in horizon of maximum accumulation: About 10 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 3 mmhos/cm (very slightly saline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Gravelly

Potential native vegetation: blue grama, black grama, New Mexico Feathergrass, common wolfstail, little bluestem, sideoats grama, western wheatgrass, winterfat

Land capability subclass (nonirrigated): 6e

Typical Profile:

A—0 to 6 inches; extremely cobbly sandy clay loam

2Bw—6 to 29 inches; silty clay

2C—29 to 60 inches; silty clay

Minor Components

Rock outcrop

Composition: About 8 percent

Depth to restrictive feature: 0 inches to bedrock, lithic

Silver and similar soils

Composition: About 7 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

302—Puye gravelly sandy loam, 3 to 15 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,300 to 7,200 feet (1,920 to 2,195 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Puye and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Puye soils

Landscape: Uplands

Landform: Summits, mesas

Parent material: Slope alluvium derived from pumice

Slope: 3 to 15 percent

Surface fragments: About 20 percent gravel

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to duripan

Drainage class: Somewhat excessively drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 1.3 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: About 3 percent

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 2 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Juniperus monosperma-Pinus edulis/Fallugia paradoxa-
Chrysothamnus nauseosus/Bouteloua hirsuta-Bouteloua gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, oneseed juniper, twoneedle pinyon, Apache plume,
galleta, needleandthread, sideoats grama

Land capability subclass (nonirrigated): 7s

Typical Profile:

A—0 to 3 inches; gravelly sandy loam

Bw—3 to 15 inches; gravelly sandy loam

Bqm—15 to 16 inches; cemented material

2Bq and 2C—16 to 60 inches; very gravelly loamy sand

Minor Components

Chiminet and similar soils

Composition: About 8 percent

Slope: 5 to 40 percent

Depth to restrictive feature: 10 to 20 inches to bedrock, paralithic

Drainage class: Well drained

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua
gracilis

Oelop and similar soils

Composition: About 7 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

401—Chiminet-Rock outcrop association, 5 to 40 percent slopes

Map Unit Setting

Major Land Resource Area: 36

Elevation: 6,800 to 8,000 feet (2,073 to 2,438 meters)

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Map Unit Composition

Chiminet and similar soils: 60 percent

Rock outcrop: 25 percent

Minor components: 15 percent

Component Descriptions

Chiminet soils

Landscape: Uplands, hills

Landform: Mesas, buttes

Parent material: Residuum weathered from tuff

Slope: 5 to 40 percent

Depth class: Shallow

Depth to restrictive feature: 10 to 20 inches to bedrock, paralithic

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 1.2 inches (very low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua
gracilis

Potential native vegetation:

Common trees: oneseed juniper, twoneedle pinyon

Other plants: blue grama, bottlebrush squirreltail, prairie junegrass, Gambel oak

Land capability subclass (nonirrigated): 7s

Typical Profile:

Oi—0 to 1 inches; slightly decomposed plant material

A—1 to 3 inches; sandy loam

C—3 to 10 inches; gravelly sandy loam

Cr—10 to 60 inches; bedrock

Rock outcrop

Depth to restrictive feature: 0 inches to bedrock, lithic

Minor Components

Oelop and similar soils

Composition: About 5 percent

Slope: 1 to 5 percent

Drainage class: Well drained

Ecological site: Loamy

Puye and similar soils

Composition: About 5 percent

Slope: 3 to 15 percent

Depth to restrictive feature: 10 to 20 inches to duripan
Drainage class: Somewhat excessively drained
Ecological site: Juniperus monosperma-Pinus edulis/Fallugia paradoxa-
 Chrysothamnus nauseosus/Bouteloua hirsuta-Bouteloua gracilis

Totavi and similar soils

Composition: About 5 percent
Slope: 1 to 8 percent
Drainage class: Well drained
Ecological site: Juniperus monosperma-Pinus edulis/Fallugia paradoxa-
 Chrysothamnus nauseosus/Bouteloua hirsuta-Bouteloua gracilis

407—Totavi gravelly loam, 1 to 8 percent slopes

Map Unit Setting

Major Land Resource Area: 48A
Elevation: 6,800 to 8,000 feet (2,073 to 2,438 meters)
Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)
Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)
Frost-free period: 100 to 130 days

Map Unit Composition

Totavi and similar soils: 85 percent
 Minor components: 15 percent

Component Descriptions

Totavi soils

Landscape: Uplands
Landform: Summits mesas
Parent material: Slope alluvium derived from tuff
Slope: 1 to 8 percent
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 0.6 to 2.0 in/hr (moderate)
Available water capacity: About 8.9 inches (moderate)
Shrink-swell potential: About 1.5 percent (low)
Runoff class: Medium
Calcium carbonate average in horizon of maximum accumulation: About 3 percent
Gypsum average in horizon of maximum accumulation: None
Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
 (nonsaline)
Sodium adsorption ratio average in horizon of maximum accumulation: None
 (nonsodic)
Ecological site: Juniperus monosperma-Pinus edulis/Fallugia paradoxa-
 Chrysothamnus nauseosus/Bouteloua hirsuta-Bouteloua gracilis
Potential native vegetation:
 Common trees: oneseed juniper, twoneedle pinyon
 Other plants: Piptatherum micranthum, bottlebrush squirreltail, buckwheat,
 muttongrass, pine dropseed, western yarrow
Land capability subclass (nonirrigated): 3s

Typical Profile:

Oi—0 to 3 inches; slightly decomposed plant material
 A—3 to 6 inches; gravelly loam
 Bw—6 to 28 inches; sandy loam
 C1 and C2—28 to 60 inches; gravelly sandy loam

Minor Components

Chiminet and similar soils

Composition: About 8 percent
Slope: 5 to 40 percent
Depth to restrictive feature: 10 to 20 inches to bedrock, paralithic
Drainage class: Well drained
Ecological site: Pinus edulis-Juniperus monosperma/Quercus gambelii/Bouteloua gracilis

Rock outcrop

Composition: About 7 percent
Depth to restrictive feature: 0 inches to bedrock, lithic

704—Chrishall gravelly loam, 1 to 15 percent slopes**Map Unit Setting**

Major Land Resource Area: 48A
Elevation: 6,400 to 9,000 feet (1,951 to 2,743 meters)
Mean annual precipitation: 18 to 25 inches (457 to 635 millimeters)
Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)
Frost-free period: 80 to 100 days

Map Unit Composition

Chrishall and similar soils: 80 percent
 Minor components: 20 percent

Component Descriptions**Chrishall soils**

Landscape: Valleys
Landform: Stream terraces
Parent material: Slope alluvium derived from volcanic rock
Slope: 1 to 15 percent
Surface fragments: About 21 percent gravel
Depth class: Very deep
Drainage class: Well drained
Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)
Available water capacity: About 5.8 inches (low)
Shrink-swell potential: About 1.5 percent (low)
Flooding hazard: Occasional
Runoff class: Low
Calcium carbonate average in horizon of maximum accumulation: None
Gypsum average in horizon of maximum accumulation: None
Salinity average in horizon of maximum accumulation: About 1 mmhos/cm (nonsaline)
Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Mountain Loam

Potential native vegetation: Arizona fescue, pine dropseed, western wheatgrass, muhly, needlegrass, bottlebrush squirreltail

Land capability subclass (nonirrigated): 4c

Typical Profile:

A1—0 to 17 inches; gravelly loam

A2,Bw,C—17 to 60 inches; gravelly fine sandy loam

Minor Components

Calaveras and similar soils

Composition: About 8 percent

Slope: 40 to 80 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Festuca arizonica

Palon and similar soils

Composition: About 7 percent

Slope: 40 to 80 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Abies concolor/Quercus gambelii-

Symphoricarpos albus/Festuca arizonica-Carex geyeri

Rusbach and similar soils

Composition: About 5 percent

Slope: 40 to 80 percent

Drainage class: Somewhat excessively drained

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

710—Calaveras-Palon very gravelly sandy loams, 40 to 80 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 8,500 to 10,000 feet (2,591 to 3,048 meters)

Mean annual precipitation: 25 to 28 inches (635 to 711 millimeters)

Mean annual air temperature: 40 to 44 degrees F. (4.4 to 6.7 degrees C.)

Frost-free period: 70 to 90 days

Map Unit Composition

Calaveras and similar soils: 50 percent

Palon and similar soils: 30 percent

Minor components: 20 percent

Component Descriptions

Calaveras soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Colluvium derived from tuff

Slope: 40 to 80 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 4.4 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: None mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Festuca arizonica

Potential native vegetation:

Common trees: ponderosa pine, Douglas-fir

Other plants: Arizona fescue, mountain muhly, vaccinium, Gambel oak, brome

Land capability subclass (nonirrigated): 7e

Typical Profile:

Oi—0 to 3 inches; slightly decomposed plant material

A—3 to 9 inches; very gravelly sandy loam

E,Bt—9 to 60 inches; very cobbly sandy clay loam

Palon soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Colluvium derived from rhyolite

Slope: 40 to 80 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 3.3 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: None mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pseudotsuga menziesii-Abies concolor/Quercus gambelii-

Symphoricarpos albus/Festuca arizonica-Carex geyeri

Potential native vegetation:

Common trees: white fir, corkbark fir, Engelmann spruce, quaking aspen,
Douglas-fir

Other plants: sedge, mountain muhly, vaccinium, bluegrass

Land capability subclass (nonirrigated): 7e

Typical Profile:

Oi—0 to 1 inches; slightly decomposed plant material

E—1 to 16 inches; very gravelly sandy loam

Bt1—16 to 40 inches; very gravelly loamy sand

Bt2—40 to 60 inches; extremely cobbly sandy loam

Minor Components

Alanos and similar soils

Composition: About 8 percent

Slope: 15 to 50 percent

Drainage class: Well drained

Ecological site: Pinus ponderosa/Festuca arizonica-Danthonia parryi

Chrishall and similar soils

Composition: About 7 percent

Slope: 1 to 15 percent

Drainage class: Well drained

Flooding hazard: Occasional

Ecological site: Mountain Loam

Laventana and similar soils

Composition: About 5 percent

Slope: 15 to 40 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Festuca arizonica

711—Laventana cobbly loam, 15 to 40 percent slopes**Map Unit Setting**

Major Land Resource Area: 48A

Elevation: 8,400 to 9,100 feet (2,560 to 2,774 meters)

Mean annual precipitation: 25 to 28 inches (635 to 711 millimeters)

Mean annual air temperature: 40 to 44 degrees F. (4.4 to 6.7 degrees C.)

Frost-free period: 70 to 90 days

Map Unit Composition

Laventana and similar soils: 80 percent

Minor components: 20 percent

Component Descriptions**Laventana soils**

Landscape: Uplands

Landform: Mountains

Parent material: Slope alluvium derived from tuff

Slope: 15 to 40 percent

Surface fragments: About 21 percent cobbles

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 5.3 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: High

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: None mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Festuca arizonica

Potential native vegetation:

Common trees: ponderosa pine, Douglas-fir

Other plants: Arizona fescue, mountain muhly, vaccinium, Gambel oak, brome

Land capability subclass (nonirrigated): 6e

Typical Profile:

A1—0 to 5 inches; cobbly loam

A2—5 to 11 inches; cobbly fine sandy loam

E—11 to 23 inches; cobbly sandy clay loam

Bt—23 to 60 inches; extremely stony sandy clay loam

Minor Components

Alanos and similar soils

Composition: About 8 percent

Slope: 15 to 50 percent

Drainage class: Well drained

Ecological site: Pinus ponderosa/Festuca arizonica-Danthonia parryi

Calaveras and similar soils

Composition: About 7 percent

Slope: 40 to 80 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Festuca arizonica

Palon and similar soils

Composition: About 5 percent

Slope: 40 to 80 percent

Drainage class: Well drained

Ecological site: Pseudotsuga menziesii-Abies concolor/Quercus gambelii-

Symphoricarpos albus/Festuca arizonica-Carex geyeri

719—Alanos very cobbly loam, 15 to 50 percent slopes**Map Unit Setting**

Major Land Resource Area: 48A

Elevation: 7,200 to 8,300 feet (2,195 to 2,530 meters)

Mean annual precipitation: 18 to 25 inches (457 to 635 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Map Unit Composition

Alanos and similar soils: 80 percent

Minor components: 20 percent

Component Descriptions**Alanos soils**

Landscape: Uplands

Landform: Hills

Parent material: Colluvium derived from volcanic rock

Slope: 15 to 50 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: .06 to 0.2 in/hr (slow)
Available water capacity: About 4.8 inches (low)
Shrink-swell potential: About 3.7 percent (moderate)
Runoff class: Very high
Calcium carbonate average in horizon of maximum accumulation: About 3 percent
Gypsum average in horizon of maximum accumulation: None
Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
 (nonsaline)
Sodium adsorption ratio average in horizon of maximum accumulation: None
 (nonsodic)
Ecological site: Pinus ponderosa/Festuca arizonica-Danthonia parryi
Potential native vegetation:
 Common trees: ponderosa pine
 Other plants: Arizona fescue, mountain muhly, muttongrass, prairie Junegrass,
 sedge
Land capability subclass (nonirrigated): 7e

Typical Profile:

Oi—0 to 1 inches; slightly decomposed plant material
 A—1 to 7 inches; very cobbly loam
 Bt1—7 to 27 inches; very cobbly clay
 Bt2—27 to 39 inches; extremely cobbly sandy clay loam
 C—39 to 60 inches; extremely cobbly sandy loam

Minor Components

Calaveras and similar soils

Composition: About 8 percent
Slope: 40 to 80 percent
Drainage class: Well drained
Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Festuca arizonica

Laventana and similar soils

Composition: About 7 percent
Slope: 15 to 40 percent
Drainage class: Well drained
Ecological site: Pseudotsuga menziesii-Pinus ponderosa/Festuca arizonica

Palon and similar soils

Composition: About 5 percent
Slope: 40 to 80 percent
Drainage class: Well drained
Ecological site: Pseudotsuga menziesii-Abies concolor/Quercus gambelii-
 Symphoricarpos albus/Festuca arizonica-Carex geyeri

802—Redondo gravelly sandy clay loam, 5 to 25 percent slopes

Map Unit Setting

Major Land Resource Area: 48A
Elevation: 9,400 to 10,800 feet (2,865 to 3,292 meters)
Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Map Unit Composition

Redondo and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Redondo soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Residuum weathered from tuff

Slope: 5 to 25 percent

Depth class: Very deep

Drainage class: Well drained

Slowest permeability: 0.6 to 2.0 in/hr (moderate)

Available water capacity: About 5.7 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: About 1 mmhos/cm
(nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None
(nonsodic)

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

Potential native vegetation:

Common trees: corkbark fir, Engelmann spruce

Other plants: vaccinium, Thurber fescue, geranium, mountain muhly, strawberry

Land capability subclass (nonirrigated): 6c

Typical Profile:

Oi—0 to 2 inches; slightly decomposed plant material

A—2 to 5 inches; gravelly sandy clay loam

E—5 to 16 inches; gravelly sandy clay loam

Bt—16 to 60 inches; very cobbly sandy clay loam

Minor Components

Rock outcrop

Composition: About 10 percent

Depth to restrictive feature: 0 inches to bedrock, lithic

Rusbach and similar soils

Composition: About 5 percent

Slope: 40 to 80 percent

Drainage class: Somewhat excessively drained

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

803—Rusbach cobbly sandy loam, 40 to 80 percent slopes

Map Unit Setting

Major Land Resource Area: 48A

Elevation: 8,600 to 10,800 feet (2,621 to 3,292 meters)

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Map Unit Composition

Rusbach and similar soils: 85 percent

Minor components: 15 percent

Component Descriptions

Rusbach soils

Landscape: Mountains

Landform: Mountain slopes

Parent material: Colluvium derived from tuff

Slope: 40 to 80 percent

Depth class: Very deep

Drainage class: Somewhat excessively drained

Slowest permeability: 2.0 to 6.0 in/hr (moderately rapid)

Available water capacity: About 4.0 inches (low)

Shrink-swell potential: About 1.5 percent (low)

Runoff class: Medium

Calcium carbonate average in horizon of maximum accumulation: None

Gypsum average in horizon of maximum accumulation: None

Salinity average in horizon of maximum accumulation: None mmhos/cm (nonsaline)

Sodium adsorption ratio average in horizon of maximum accumulation: None (nonsodic)

Ecological site: Pinus engelmannii-Abies lasiocarpa/Vaccinium

Potential native vegetation:

Common trees: corkbark fir, Engelmann spruce

Other plants: vaccinium, Thurber fescue, geranium, mountain muhly, strawberry

Land capability subclass (nonirrigated): 7e

Typical Profile:

Oi—0 to 2 inches; slightly decomposed plant material

E1—2 to 16 inches; cobbly sandy loam

E2—16 to 25 inches; cobbly loamy sand

Bw—25 to 70 inches; very cobbly loamy sand

Minor Components

Rock outcrop

Composition: About 5 percent

Depth to restrictive feature: 0 inches to bedrock, lithic

Chrishall and similar soils*Composition:* About 5 percent*Slope:* 1 to 15 percent*Drainage class:* Well drained*Flooding hazard:* Occasional*Ecological site:* Mountain Loam**Redondo and similar soils***Composition:* About 5 percent*Slope:* 5 to 25 percent*Drainage class:* Well drained*Ecological site:* *Pinus engelmannii*-*Abies lasiocarpa*/*Vaccinium***DAM—Dam**

This unit represents the dams that impounds the water that forms the El Vado and Abiquiu reservoir areas.

W—Water

These areas are covered with water in most years, at least during the period that is warm enough for plants to grow. Many areas are covered throughout the year. Delineations mapped as water in the survey area are El Vado and Abiquiu reservoirs and Heron Lake.

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

Interpretive Ratings

The interpretive tables in this survey rate the soils in the survey area for various uses. Many of the tables identify the limitations that affect specified uses and indicate the severity of those limitations. The ratings in these tables are both verbal and numerical.

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited*, *somewhat limited*, and *very limited*. The suitability ratings are expressed as *well suited*, *moderately suited*, *poorly suited*, and *unsuited* or as *good*, *fair*, and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the relative severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations

appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service. Statewide important farmlands are those having an irrigated land capability class of IV or better and are irrigated with a supply of irrigation water that will meet crop needs throughout the growing season.

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed here. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in Table 4, "Acreage and Proportional Extent of the Soils." The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading *Detailed Soil Map Units*.

The map units that would meet the requirements for prime farmland if an adequate and dependable supply of irrigation water were available are:

- 22 Jocity-Gilco complex, 1 to 3 percent slopes
- 23 Gilco sandy clay loam, 0 to 3 percent slopes
- 24 Jocity sandy clay loam, 0 to 1 percent slopes
- 190 Sedillo loam, 0 to 3 percent slopes

Crops and Pasture

By Levi Sandoval, District Conservationist and Edward Romero, Soil Conservationist, Natural Resources Conservation Service

General management needs for crops, hayland and pasture is suggested in this section. The system of land capability classification used by the Natural Resources Conservation Service is explained, and the estimated yields of the main crops, hay and pasture plants commonly grown are listed for each soil. Specific information can be obtained from the local office of the Natural Resources Conservation Service.

About 32,000 acres of irrigated cropland, pastureland, and hayland are in the survey area. The main areas of irrigated land are along the Rio Grande, the Rio Chama, and their tributaries.

Water for most of the irrigated land is delivered by acequias off the Rio Grande and the Rio Chama. Irrigation water is adequate for good crop yields during most years.

The main crops are grass hay, alfalfa, orchards, and small gardens. Good potential exists for increased production of high-value crops such as vegetables and vineyards. Other crops include small grains such as winter wheat, barley, and oats.

About 6,300 acres of non-irrigated cropland is in the survey area, located near Tierra Amarilla and Llaues. Non-irrigated farming is limited by uncertain precipitation and short growing seasons. Major non-irrigated crops consist mainly of winter wheat, barley, and oats.

The survey area is broken into several distinct areas of crop or pasture production. In the northern part of the survey area, production is limited almost exclusively to cool season grass production. A warm season legume, normally strawberry clover, is commonly included in the pastures. Many pastures are grazed and large quantities of hay are produced to provide feed for the long winters.

The central part of the survey area, from Tierra Amarilla to below Abiquiu reservoir, contains very little pasture or cropland.

The southern portion of the survey area is also broken into several areas which vary significantly in the type of irrigated agriculture. North of Espanola along the Rio Grande in the Velarde-Alcalde area, the major crop is alfalfa with significant amounts of sweet corn and chili being produced. Numerous apple orchards are found in the Alcalde-Velarde area with their number decreasing downstream into Espanola. The Dixon-Velarde-Alcalde area has a high water table, the water is normally found three to four feet below the surface, a depth which usually allows crop production.

In the adjacent area along the Rio Chama, in the vicinity of Hernandez, Medanales, and Chili, the number of orchards and cropland areas is greatly reduced. Instead there are many areas of native grass meadows which are regularly cut for hay production. The water table is much higher along the river and there are large areas of sedges. Many of these sedge areas are also cut and baled for hay.

East of Espanola in the Chimayo Valley area chili is the major crop with many apple orchards and alfalfa fields.

The last area of significant crop production is along the Rio Grande. South of Espanola in the San Pedro-Mesilla area, alfalfa is the major crop with scattered orchards. There are many areas of native grass meadows which are grazed. Alfalfa decreases and orchards increase moving up the valley such that orchards predominate in Velarde. From Velarde to the edge of the survey area in the La Cienega-Dixon area, agricultural production is primarily orchards with scattered alfalfa fields.

The major objectives in cropland management are irrigation water management, maintaining soil tilth, fertility, and reduction of wind erosion. Irrigation water management consists of determining and controlling the proper rate, amount, and timing of irrigation water. To achieve proper irrigation water management, it is desirable to have a well designed conservation irrigation system based on the

characteristics of the soil and the crops to be grown. A timely application of water without over-irrigating is essential to obtain high yields and to conserve water. Installing irrigation pipelines, land leveling, or ditch lining should be used in some areas where needed to conserve water, improve efficiency, minimize erosion, and increase productivity.

Several management practices designed to maintain soil tilth, fertility, and reduce soil and water erosion are applicable to all of the cropped soils in the survey area. These include, use of conservation cropping systems, crop residue management, cover crops, and proper fertilization.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in Table 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the table are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

Class 2 soils have moderate limitations that restrict the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that restrict the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that restrict the choice of plants or that require very careful management, or both.

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, 2*e*. The letter *e* shows that the main hazard is the risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w*, *s*, or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

The capability classification of map units in this survey area is given in the section *Detailed Soil Map Units* and in Table 5.

Rangeland

In areas that have similar climate and topography, differences in the kind and amount of vegetation produced on rangeland are closely related to the kind of soil. Effective management is based on the relationship between the soils and vegetation and water.

Table 6, Rangeland Productivity, shows, for each soil that supports rangeland vegetation, the ecological site and the potential annual production of vegetation in favorable, normal, and unfavorable years. An explanation of the column headings in Table 6 follows.

An *ecological site* is the product of all the environmental factors responsible for its development. It has characteristic soils that have developed over time throughout the soil development process; a characteristic hydrology, particularly infiltration and runoff, that has developed over time; and a characteristic plant community (kind and amount of vegetation). The hydrology of a site is influenced by development of the soil and plant community. The vegetation, soils, and hydrology are all interrelated. Each is influenced by the others and influences the development of the others. The plant community on an ecological site is typified by an association of species that differs

from that of other ecological sites in the kind and/or proportion of species or in total production. Descriptions of ecological sites are provided in the Field Office Technical Guide, which is available in local offices of the Natural Resources Conservation Service, or at: <http://www.nm.nrcs.usda.gov/technical/fotg/section-2/ESD.html> on the Internet.

Total dry-weight production is the amount of vegetation that can be expected to grow annually on well managed rangeland that is supporting the potential natural plant community. It includes all vegetation, whether or not it is palatable to grazing animals. It includes the current year's growth of leaves, twigs, and fruits of woody plants. It does not include the increase in stem diameter of trees and shrubs. It is expressed in pounds per acre of air-dry vegetation for favorable, normal, and unfavorable years. In a favorable year, the amount and distribution of precipitation and the temperatures make growing conditions substantially better than average. In a normal year, growing conditions are about average. In an unfavorable year, growing conditions are well below average, generally because of low available soil moisture. Yields are adjusted to a common percent of air-dry moisture content.

Range management requires a knowledge of the kinds of soil and of the potential natural plant community. It also requires an evaluation of the present range similarity index and rangeland trend. Range similarity index is determined by comparing the present plant community with the potential natural plant community on a particular rangeland ecological site. The more closely the existing community resembles the potential community, the higher the range similarity index. Rangeland trend is defined as the direction of change in an existing plant community relative to the potential natural plant community. Further information about the range similarity index and rangeland trend is available in chapter 4 of the "National Range and Pasture Handbook" (<http://www.ftw.nrcs.usda.gov/glti/NRPH.html>).

The objective in range management is to control grazing so that the plants growing on a site are about the same in kind and amount as the potential natural plant community for that site. Such management generally results in the optimum production of vegetation, control of undesirable brush species, conservation of water, and control of erosion. Sometimes, however, an area with a range similarity index somewhat below the potential meets grazing needs, provides wildlife habitat, and protects soil and water resources.

Forest Productivity and Management

The tables in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forest management.

Forest Productivity

In Table 7, Forestland Productivity, the *potential productivity* of merchantable or *common trees* on a soil is expressed as a site index and as a volume number. Only map units and soils that may likely have harvestable trees are shown. The *site index* is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The *volume of wood fiber*, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and

calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow; help to keep snow on fields; and provide food and cover for wildlife. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Table 7 shows the height that locally grown trees and shrubs are expected to reach in 20 years on various soils. The estimates in Table 7 are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service or of the Cooperative Extension Service or from a commercial nursery.

Windbreaks protect livestock, buildings, and yards from wind and snow. They also protect fruit trees and gardens, and they furnish habitat for wildlife. Several rows of low and high-growing broadleaf and coniferous trees and shrubs provide the most protection.

Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil. Field windbreaks protect cropland and crops from wind, help to keep snow on the fields, and provide food and cover for wildlife.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

The trees or shrubs selected for planting in windbreaks should be those that are suited to the soils on the site. Selecting suitable species helps to ensure the survival, rapid growth, and longevity of windbreaks. The soil characteristics that greatly affect the growth rate of trees and shrubs are permeability, available water capacity, and depth to bedrock.

Grazing can be detrimental to windbreaks and environmental plantings because livestock compact the soil and remove the lower branches of the trees and shrubs. Compaction retards growth and removal of the lower branches reduces the effectiveness and esthetic value of the windbreaks. Weeds and insects prevent maximum growth rates. Clean cultivation and applications of herbicide help to control weeds. An insufficient moisture supply hinders the survival of trees in urban areas and on cropland. Drip irrigation or other methods of irrigation are needed to reduce the seedling mortality rate and ensure continued growth. Fallowing a year before planting helps to provide a sufficient soil moisture supply for the establishment of seedlings.

Information on planning windbreaks and screens along with their proper care can be obtained from the local offices of the Natural Resources Conservation Service, the Cooperative Extension Service, or from a commercial nursery.

Recreation

The soils of the survey area are rated in Tables 8 and 9 according to limitations that affect their suitability for recreation. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the recreational uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The ratings in the tables are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation also are important. Soils that are subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

The information in Tables 8 and 9 can be supplemented by other information in this survey, for example, interpretations for building site development, construction materials, sanitary facilities, and water management.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The ratings are based on the soil properties that affect the ease of developing camp areas and the performance of the areas after development. Slope, stoniness, and depth to bedrock or a cemented pan are the main concerns affecting the development of camp areas. The soil properties that affect the performance of the areas after development are those that influence trafficability and promote the growth of vegetation, especially in heavily used areas. For good trafficability, the surface of camp areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The ratings are based on the soil properties that affect the ease of developing picnic areas and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of picnic areas. For good trafficability, the surface of picnic areas should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large

stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Playgrounds require soils that are nearly level, are free of stones, and can withstand intensive foot traffic. The ratings are based on the soil properties that affect the ease of developing playgrounds and that influence trafficability and the growth of vegetation after development. Slope and stoniness are the main concerns affecting the development of playgrounds. For good trafficability, the surface of the playgrounds should absorb rainfall readily, remain firm under heavy foot traffic, and not be dusty when dry. The soil properties that influence trafficability are texture of the surface layer, depth to a water table, ponding, flooding, permeability, and large stones. The soil properties that affect the growth of plants are depth to bedrock or a cemented pan, permeability, and toxic substances in the soil.

Paths and trails for hiking and horseback riding should require little or no slope modification through cutting and filling. The ratings are based on the soil properties that affect trafficability and erodibility. These properties are stoniness, depth to a water table, ponding, flooding, slope, and texture of the surface layer.

Off-road motorcycle trails require little or no site preparation. They are not covered with surfacing material or vegetation. Considerable compaction of the soil material is likely. The ratings are based on the soil properties that influence erodibility, trafficability, dustiness, and the ease of revegetation. These properties are stoniness, slope, depth to a water table, ponding, flooding, and texture of the surface layer.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer. The suitability of the soil for traps, tees, roughs, and greens is not considered in the ratings.

Wildlife Habitat

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

There are six general areas of wildlife habitat in the Rio Arriba Survey Area:

- 1.) Plateaus, mesas, and terraces
- 2.) Mountains
- 3.) River and stream valleys
- 4.) Wetlands
- 5.) Breaks
- 6.) Rock outcrops

Plateaus, mesas, and terraces have soils that have grasslands and pinyon-juniper forests on the gently undulating to steep slopes. Grasses and shrubs grow on soils ranging from very shallow to very deep.

The summits of plateaus and mesas support pinyon-juniper forests. Elevations range from 6,800 to 7,800 feet. A variety of wildlife utilize these area, some of which include gray squirrels, cottontail rabbits, prairie rattlesnakes, and pinyon jays

Fan remnants and stream terraces form old land surfaces near valleys and mountains. These upland sites are home to badger, striped skunk, prairie dogs, prairie rattlesnakes, black-tailed jackrabbit, and hawks. Antelope could be reintroduced in the northern half of the survey if given protection until established. Badgers and other burrowing animals make extensive use of areas of coarse and moderately coarse textured soils.

Mountains are in the northeastern portion of the survey area north of Bernalillo.

The Jemez Mountains contain some of the most important wildlife habitat in the survey area. Woodlands of ponderosa pine, Douglas-fir, Englemann spruce, pinyon, juniper, and Gambel oak, provide habitat for turkey, mule deer, Elk, black bear, porcupine, cottontail rabbits, gray squirrel, band-tailed pigeons, owls, hawks, prairie rattlesnakes, and songbirds.

Open grassy valleys are home to prairie dogs. The Long tailed weasel also occurs in these areas. Local wetlands are important for many birds, waterfowl, and local mammals. Steep slopes and variable topography also play important roles in wildlife habitat.

River and stream valleys occur along such streams as the Rio Grande, Rio Chama, and Santa Cruz Rivers. They contain riparian vegetation and water for wildlife use. These areas are used by all local wildlife for some part of their needs.

Songbirds nest in cottonwood and willow trees in large numbers. Cavity nesting birds find many nest sites in holes within large cottonwood trees. Quail use the thick vegetation for cover and seed sources. The abundant prey species attract many predators such as coyote, hawks, prairie rattlesnakes, and bobcat. Mule deer may spend their whole lives in these river bottoms.

The potential for competition between livestock and wildlife is high. The plant communities in these riparian areas must be maintained in good condition to provide wildlife habitat, flood protection, water quality, and soil erosion control.

Wetlands are areas of hydrophytic vegetation, hydric soils, and wetland hydrology. Marshes are wetlands dominated by grasses and grass-like plants, and they occur in few areas of the survey area. Some are in channels of the Rio Grande, Puerco, and Jemez River valleys and are produced by ground water. Other small marshes are man-induced and formed by irrigation impoundments.

All of these wetlands are used extensively by a large variety of wildlife species. Predators and prey species alike gather at these oases in an otherwise dry landscape.

Wetlands provide natural protection from flooding, enhance water quality, furnish habitat for wildlife, and conserve water. Wetlands need protection from excessive grazing, drainage projects, and poorly planned urban development.

Breaks are the steep, broken lands below the escarpments of mesas and plateaus. Breaks are very eroded and dissected, with many small ridges and gullies. Vegetation grows on the soils occurring in breaks, but not in large amounts. Although annual production of air-dry vegetation is generally low, plant diversity is high. This botanic diversity along with the physical cover provided by the terrain, provides an attractive habitat for wildlife. Mule deer hide in breaks and feed on browse plants such as true mountainmahogany. Coyote and red fox find cover in the intricate, rocky landscapes. Trees growing on breaks of higher elevation, provide nest sites and hunting perches for raptors such as the red-tailed hawk.

Rock outcrops furnish wildlife habitat where they occur as cliffs below rims of plateaus, mesas, and canyons. Although little or no vegetation grows on rock outcrops, they are still important to many species. Eagles, hawks, turkey vultures, owls, diamondback rattlers, and swallows utilize cliffs and ledges. Migratory bats

seasonally roost in cracks and caves. Foxes, bobcats, bears, and cougars have dens in alcoves and caves.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the data in the tables described under the heading *Soil Properties*.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil between the surface and a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about particle-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 to 7 feet of the surface, soil wetness, depth to a water table, ponding, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the *Glossary*.

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. Tables 10 and 11 show the degree and kind of soil limitations that

affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

Tables 12 and 13 show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and

contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow

along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Tables 14 and 15 give information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

Sand and gravel are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. In Table 14, only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good*, *fair*, or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

The soils are rated *good*, *fair*, or *poor* as potential sources of topsoil, reclamation material, and roadfill. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil, reclamation material, or roadfill. The lower the number, the greater the limitation.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water

capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Water Management

Table 16 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed excavated ponds. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Index Properties

Table 17 gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the *Glossary*.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional

refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest. The AASHTO classification for soils tested, with group index numbers in parentheses, is given in Table 17.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and plasticity index (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical Properties

Table 18 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In Table 18, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In Table 18, the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In Table 18, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $1/3$ - or $1/10$ -bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K_{sat}). The estimates in the table indicate the rate of water movement, in micrometers per second (um/sec), when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each soil layer. The capacity varies, depending on soil properties that affect retention of water. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at $1/3$ - or $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In Table 18, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in Table 18 as the K factor (K_w and K_f) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Wind erodibility groups are made up of soils that have similar properties affecting their susceptibility to wind erosion in cultivated areas. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.
- 4L. Calcareous loams, silt loams, clay loams, and silty clay loams.
4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.
6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.
7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.
8. Soils that are not subject to wind erosion because of coarse fragments on the surface or because of surface wetness.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

Chemical Properties

Table 19 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Cation-exchange capacity is the total amount of extractable bases that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer

than soils having a high cation-exchange capacity. The ability to retain cations reduces the hazard of ground-water pollution.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

Water Features

Table 20 gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Surface runoff is that portion of the precipitation on a drainage area that travels over the ground surface. The overland flow of water is no longer considered runoff when it enters a point of concentrated flow such as a stream channel. Soil properties that strongly affect surface runoff are slope and permeability. The relative amount of runoff is given as *negligible, very low, low, medium, high, and very high*. Very specific conditions are assumed for estimation of surface runoff: the soil surface is bare and free of irregularities that would retard water flow, the soil is not frozen, the soil is very moist or wet, and the amount of precipitation or snowmelt is about 2 inches and occurs in a 24-hour period.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table 20 indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 20 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Soil Features

Table 21 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Potential for frost action is the likelihood of upward or lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Classification of the Soils

Soils are classified so that we can more easily remember significant characteristics. Classification enables us to assemble knowledge about the soils, to see their relationship to one another and to the whole environment, and to develop principles that help us to understand their behavior and their responses to manipulation. Through classification and then the use of soil maps, we can apply our knowledge of soils to specific areas.

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1998 and 1999). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 22 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Aridisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Argid (*Arg*, meaning presence of an argillic horizon, plus *id*, from Aridisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Haplargids (*Hapl*, meaning minimal horizonation, plus *argid*, the suborder of the Aridisols that has an argillic horizon).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Ustollic* identifies the subgroup that is an intergrade to soils that have more organic matter in the surface layer. An example is Ustollic Haplargids.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, mesic Ustollic Haplargids.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition,

and arrangement in the profile. The Penistaja series is an example of a fine-loamy, mixed, mesic Ustollic Haplargid.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (Soil Survey Staff, 1999). Soils in this survey were classified according to the 1987 "Keys to Soil Taxonomy" (Soil Survey Staff, 1987). Unless otherwise indicated, colors in the descriptions are for dry soil. Following the pedon description is the range of important characteristics of the soils in the series.

Abiquiu Series

Map units: 18, 42

Depth class: very deep

Drainage class: somewhat poorly drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Landform: flood plains and stream terraces

Parent material: stream alluvium derived from gravelly material and sandstone

Elevation: 5,500 to 6,100 feet (1,676 to 1,859 meters)

Slope: 0 to 3 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 50 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Sandy-skeletal, mixed, mesic Typic Ustifluvents

Typical Pedon

Abiquiu silt loam, in an area of map unit 18, Abiquiu-Peralta complex, 0 to 3 percent slopes; about 0.6 mile north and 0.4 mile east of Abiquiu; New Mexico state plane coordinates 1,898,200 feet north and 482,100 feet east. NAD 83, UTM 13 — 40 08 881 N; 03 82 140 E.

- A—0 to 4 inches; brown (10YR 5/3) silt loam, brown (10YR 4/3) moist; moderate thin platy structure; soft, friable, slightly sticky and slightly plastic; common fine roots; many medium discontinuous irregular pores; strongly effervescent; moderately alkaline; abrupt smooth boundary.
- C1—4 to 8 inches; light yellowish brown (10YR 6/4) fine sandy loam, yellowish brown (10YR 5/4) moist; massive; soft, friable, slightly sticky and slightly plastic; common fine roots; many medium irregular pores; slightly effervescent; moderately alkaline; abrupt wavy boundary.
- C2—8 to 15 inches; pale brown (10YR 6/3) extremely gravelly coarse sand, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; few fine roots; common very fine irregular pores; 60 percent gravel and 15 percent cobbles; slightly effervescent; moderately alkaline; clear wavy boundary.
- C3—15 to 36 inches; pale brown (10YR 6/3) extremely cobbly coarse sand, with few strata of fine sandy loam, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; few fine roots; few medium irregular pores; 45 percent gravel and

30 percent cobbles; slightly effervescent; moderately alkaline; clear wavy boundary.

C4—36 to 60 inches; pale brown (10YR 6/3) extremely gravelly coarse sand, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; few fine roots; few medium irregular pores; 60 percent gravel and 15 percent cobbles; slightly effervescent; moderately alkaline.

Range in Characteristics

A horizon:

Value: 4 or 5 dry

Texture, fine earth fraction: silt loam or fine sandy loam

C horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

Texture, fine earth fraction: the upper few inches is fine sandy loam, loamy sand, or sand; and the lower part is coarse sand and sand with thin strata of fine sandy loam, loamy sand, or sand

Rock fragments: 45 to 60 percent gravel and 15 to 30 percent cobbles

Note: A water table may be at a depth of 24 to 48 inches from March through October. Long, occasional flooding occurs from April through June.

Abreu Series

Map unit: 201

Depth class: deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: mountain slopes

Parent material: colluvium derived from igneous material

Elevation: 8,200 to 9,800 feet (2,499 to 2,987 meters)

Slope: 15 to 60 percent

Climatic data:

Mean annual precipitation: 25 to 28 inches (635 to 711 millimeters)

Mean annual air temperature: 40 to 44 degrees F. (4.4 to 6.7 degrees C.)

Frost-free period: 70 to 90 days

Taxonomic class: Loamy-skeletal, mixed Typic Eutroboralfs

Typical Pedon

Abreu gravelly loam, in an area of map unit 201, Lobat-Abreu gravelly loams, 15 to 60 percent slopes; about 5.3 miles east and 0.8 mile south of Chama, New Mexico; New Mexico state plane coordinates 2,142,980 feet north and 430,360 feet east. NAD 83, UTM 13 — 40 83 616 N; 03 67 342 E.

Oe—0 to 2 inches; pine needles

A—2 to 4 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; moderate fine granular structure; soft, very friable, slightly sticky and slightly plastic; common medium, fine and few very fine roots; few very fine interstitial pores; 15 percent gravel and 5 percent cobbles; moderately acid; abrupt smooth boundary.

E—4 to 15 inches; pale brown (10YR 6/3) very gravelly loam, brown (10YR 4/3) moist; strong fine granular structure; soft, very friable, slightly sticky and slightly plastic; common medium, many fine and few very fine roots; few very fine

interstitial pores; 30 percent gravel and 10 percent cobbles; moderately acid; abrupt wavy boundary.

Bt1—15 to 34 inches; light brown (7.5YR 6/4) very gravelly clay loam, brown (7.5YR 4/4) moist; moderate fine and medium subangular blocky structure; slightly hard, firm, moderately sticky and moderately plastic; common medium, fine and very fine roots; common fine and few very fine tubular pores; common moderately thick clay films on faces of peds; 35 percent gravel and 15 percent cobbles; moderately acid; gradual wavy boundary.

Bt2—34 to 58 inches; light brown (7.5YR 6/4) very gravelly clay loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common fine and very fine roots; common fine and few very fine tubular pores; few thin clay films on faces of peds; 35 percent gravel and 15 percent cobbles; moderately acid.

R—58 inches; igneous bedrock

Range in Characteristics

A horizon

Rock fragments: 15 to 25 percent gravel and 5 to 10 percent cobbles

E horizon:

Value: 6 or 7 dry, 4 or 5 moist

Chroma: 2 to 4

Texture, fine earth fraction: loam to sandy loam

Rock fragments: 30 to 55 percent gravel and 0 to 10 percent cobbles

Bt horizon:

Hue: 7.5YR or 10YR

Texture, fine earth fraction: clay loam or sandy clay loam

Rock fragments: 30 to 70 percent gravel and 10 to 15 percent cobbles

R horizon: 40 to 60 inches to igneous bedrock

Alanos Series

Map unit: 719

Depth class: very deep

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: sideslopes of hills

Parent material: colluvium derived from volcanic material

Elevation: 7,200 to 8,300 feet (2,195 to 2,530 meters)

Slope: 15 to 50 percent

Climatic data:

Mean annual precipitation: 18 to 25 inches (457 to 635 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Clayey-skeletal, mixed Typic Eutroboralfs

Typical Pedon

Alanos very cobbly loam, in an area of map unit 719, Alanos very cobbly loam, 15 to 50 percent slopes; about 3 miles north and 1.7 miles west of the entrance to Puye Cliffs; New Mexico state plane coordinates 1,824,200 feet north and 496,800 feet east. NAD 83, UTM 13 – 39 86 207 N; 03 86 329 E.

Oe—0 to 1 inch; pine needles

A—1 to 7 inches; grayish brown (10YR 5/2) very cobbly loam, dark grayish brown (10YR 4/2) moist; moderate fine and medium granular structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine, fine and few medium roots; common very fine and fine vesicular pores; 20 percent gravel and 30 percent cobbles; neutral; clear smooth boundary.

Bt1—7 to 27 inches; brown (7.5YR 4/4) very cobbly clay, dark brown (7.5YR 3/4) moist; strong medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common fine, medium and few coarse roots; few fine interstitial pores; many moderately thick and thick clay films on faces of peds; 15 percent gravel and 20 percent cobbles; neutral; clear wavy boundary.

Bt2—27 to 39 inches; reddish yellow (7.5YR 6/6) extremely cobbly sandy clay loam, strong brown (7.5YR 4/6) moist; moderate medium and coarse subangular blocky structure, extremely hard, firm, moderately sticky and moderately plastic; few very fine, fine, medium and coarse roots; few very fine tubular pores; common moderately thick clay films on faces of peds; 30 percent gravel, 30 percent cobbles and 5 percent stones; slightly effervescent; slightly alkaline; clear wavy boundary.

C—39 to 60 inches; very pale brown (10YR 7/4) extremely cobbly sandy loam, yellowish brown (10YR 5/4) moist; massive; hard, friable, slightly sticky and nonplastic; few very fine and fine vesicular pores; 30 percent gravel, 30 percent cobbles and 10 percent stones; slightly effervescent; slightly alkaline.

Range in Characteristics

A horizon:

Rock fragments: 15 to 25 percent gravel and 25 to 35 percent cobbles

Bt horizon:

Rock fragments: 15 to 30 percent gravel, 20 to 30 percent cobbles, and 0 to 5 percent stones

C horizon:

Rock fragments: 25 to 30 percent gravel, 30 to 35 percent cobbles, and 5 to 10 percent stones

Alcalde Series

Map unit: 34

Depth class: very deep

Drainage class: well drained

Slowest permeability: .001 to .06 in./hr. (very slow)

Landform: stream terraces

Parent material: stream alluvium derived from shale

Elevation: 5,500 to 6,100 feet (1,676 to 1,859 meters)

Slope: 0 to 3 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 50 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Fine, mixed, calcareous, mesic Vertic Torriorthents

Typical Pedon

Alcalde clay, in an area of map unit 34, Alcalde clay, 0 to 3 percent slopes; about 0.1 mile due south of the drive-in theater, Espanola, New Mexico; New Mexico state

plane coordinates 1,825,400 feet north and 554,000 feet east. NAD 83, UTM 13 – 39 86 349 N; 04 03 764 E.

- A—0 to 3 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/4) moist; strong fine granular structure; hard, firm, very sticky and very plastic; common fine and medium roots; common fine discontinuous irregular pores; strongly effervescent; strongly alkaline; abrupt smooth boundary.
- Bk1—3 to 13 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/4) moist; massive; very hard, very firm, very sticky and very plastic; common very fine and fine roots; few fine irregular pores; strongly effervescent; few fine masses of calcium carbonate; strongly alkaline; gradual wavy boundary.
- Bk2—13 to 32 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/4) moist; massive; very hard, very firm, very sticky and very plastic; common very fine and fine roots; few fine irregular pores; strongly effervescent; few fine masses of calcium carbonate; strongly alkaline; gradual wavy boundary.
- Bk3—32 to 60 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/4) moist; massive; very hard, very firm, very sticky and very plastic; common very fine and few fine roots; few fine irregular pores; violently effervescent; few fine masses of calcium carbonate; strongly alkaline.

Range in Characteristics

Salinity: EC ranges from 8 to 16 mmhos/cm

A horizon:

Hue: 7.5YR or 5YR

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

Bk horizon:

Hue: 7.5 YR or 5YR

Value: 4 to 6 dry, 3 or 4 moist

Chroma: 3 or 4

Sodicity: SAR ranges from 8 to 16

Amal Series

Map unit: 106

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: plateaus

Parent material: eolian material and slope alluvium derived from shale

Elevation: 7,400 to 7,600 feet (2,256 to 2,316 meters)

Slope: 2 to 8 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Fine-silty, mixed, mesic Aridic Haplustalfs

Typical Pedon

Amal silt loam, in an area of map unit 106, Amal silt loam, 2 to 8 percent slopes, 8 miles south of Cebolla, south of the Berryman Ranch Headquarters, New Mexico; 1,100 feet east and 100 feet north from the southwest corner of Sec. 3, T.25N, R.4E.

- A—0 to 4 inches; yellowish brown (10YR 5/4) silt loam, dark yellowish brown (10YR 3/4) moist; weak fine granular structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine roots; common fine tubular pores; neutral; clear smooth boundary.
- Bt1—4 to 13 inches; brown (7.5YR 4/4) silty clay loam, dark brown (7.5YR 3/4) moist; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine, fine and few medium roots; common fine tubular pores; few fine clay films on faces of peds; neutral; clear smooth boundary.
- Bt2—13 to 25 inches; brown (7.5YR 4/4) clay loam, dark brown (7.5YR 3/4) moist; moderate medium prismatic structure parting to moderate medium subangular blocky; very hard, firm, very sticky and very plastic; few very fine, fine and medium roots; few fine tubular pores; common moderately thick clay films on faces of peds; neutral; gradual smooth boundary.
- Bt3—25 to 32 inches; brown (7.5YR 4/4) clay loam, dark brown (7.5YR 3/4) moist; moderate medium prismatic structure parting to moderate medium subangular blocky; very hard, firm, sticky and, moderately sticky plastic; and moderately plastic; few fine and medium roots; few fine tubular pores; many moderately thick clay films on faces of peds; neutral; clear smooth boundary.
- Bt4—32 to 43 inches; strong brown (7.5YR 5/6) clay loam, strong brown (7.5YR 4/6) moist; weak medium subangular blocky structure; very hard, firm, very sticky and very plastic; few very fine roots; few very fine vesicular pores; common moderately thick clay films on faces of peds; slightly effervescent; slightly alkaline; clear smooth boundary.
- 2Bk—43 to 60 inches; very pale brown (10YR 8/4) silty clay loam, yellow (10YR 7/6) moist; massive; very hard, firm, moderately sticky and moderately plastic; few very fine roots; few very fine vesicular pores; violently effervescent; calcium carbonate segregated as common masses; moderately alkaline.

Range in Characteristics

A horizon:

Value: 5 or 6 dry, 3 or 4 moist

Chroma: 3 or 4.

Bt horizon:

Hue: 5YR or 7.5YR

Value: 3 to 5 dry, 3 or 4 moist

Chroma: 4 to 6.

Bk horizon:

Value: 7 or 8 dry, 6 or 7 moist

Chroma: 4 to 6

Note: Depth to the calcic horizon ranges from 40 inches to more than 60 inches.

Angostura Series

Map units: 206, 211, 216

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: mountain slopes

Parent material: slope alluvium and colluvium derived from mixed igneous material

Elevation: 9,200 to 11,000 feet (2,804 to 3,353 meters)

Slope: 15 to 45 percent

*Climatic data:**Mean annual precipitation:* 28 to 35 inches (711 to 889 millimeters)*Mean annual air temperature:* 35 to 40 degrees F. (1.7 to 4.4 degrees C.)*Frost-free period:* 50 to 70 days*Taxonomic class:* Loamy-skeletal, mixed Typic Cryoboralfs**Typical Pedon**

Angostura very cobbly sandy loam, in an area of map unit 216, Angostura very cobbly sandy loam, 15 to 45 percent slopes; located on East Gavilan Canyon, across from the headwater spring of Rio de la Tierra Amarilla; New Mexico state plane coordinates 2,062,200 feet north and 475,000 feet east. NAD 83, UTM 13 — 40 58 820 N; 03 80 624 E.

- A—0 to 4 inches; grayish brown (10YR 5/2) very cobbly sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine and common fine roots; few very fine vesicular pores; 20 percent gravel, 20 percent cobbles and 10 percent stones; neutral; abrupt smooth boundary.
- E—4 to 12 inches; pinkish gray (7.5YR 6/2) very cobbly sandy loam, brown (7.5YR 5/2) moist; moderate medium granular structure; soft, very friable, nonsticky and nonplastic; many very fine, common fine and few medium roots; few very fine vesicular pores; 25 percent gravel, 30 percent cobbles and 10 percent stones; neutral; abrupt smooth boundary.
- Bt1—12 to 27 inches; strong brown (7.5YR 5/6) extremely gravelly sandy clay loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine, common fine and medium roots; few very fine tubular pores; few moderately thick clay films on faces of peds; 45 percent gravel, 20 percent cobbles and 10 percent stones; neutral; clear smooth boundary.
- Bt2—27 to 45 inches; strong brown (7.5YR 5/6) extremely gravelly sandy clay loam, dark brown (10YR 4/4) moist; weak fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine, few fine and medium roots; few very fine tubular pores; few moderately thick clay films on faces of peds; 45 percent gravel, 20 percent cobbles and 10 percent stones; neutral; clear smooth boundary.
- C—45 to 60 inches; strong brown (7.5YR 5/6) extremely gravelly sandy clay loam, dark brown (10YR 4/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; few very fine vesicular pores; 45 percent gravel, 20 percent cobbles and 10 percent stones; neutral.

Range in Characteristics**A horizon:***Value:* 5 or 6 dry, 3 to 5 moist*Chroma:* 2 or 3*Texture, fine earth fraction:* loam or sandy loam*Rock fragments:* 15 to 20 percent gravel, 10 to 25 percent cobbles, and 0 to 10 percent stones**E horizon:***Chroma:* 2 to 4*Texture, fine earth fraction:* loam or sandy loam*Rock fragments:* 25 to 30 percent gravel, 25 to 30 percent cobbles, and 10 to 15 percent stones

Bt horizon:

Value: 5 or 6 dry, 4 or 5 moist

Texture, fine earth fraction: clay loam or sandy clay loam

Rock fragments: 40 to 50 percent gravel, 15 to 20 percent cobbles, and 5 to 10 percent stones

Berryman Series

Map unit: 107

Depth class: very deep

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: alluvial fans

Parent material: fan alluvium derived from limestone and shale

Elevation: 7,400 to 7,600 feet (2,256 to 2,316 meters)

Slope: 3 to 8 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Fine-loamy, carbonatic, mesic Aridic Ustochrepts

Typical Pedon

Berryman silt loam, in an area of map unit 107, Berryman-Ruson association, 1 to 8 percent slopes; about 2.9 miles south and 0.3 mile west of junction of NM Highway 115 and U.S. Highway 84; 2,400 feet south, and 2,400 feet east of the northwest corner of Sec. 34, T.26 N., R.4E.

A—0 to 3 inches; light brownish gray (2.5Y 6/2) silt loam, light olive brown (2.5Y 5/4) moist; weak fine granular structure; soft, very friable, moderately sticky and moderately plastic; common very fine and fine roots; common fine vesicular pores; violently effervescent; moderately alkaline; clear smooth boundary.

Bw—3 to 16 inches; light brownish gray (2.5Y 6/2) silty clay loam, dark grayish brown (2.5Y 4/2) moist; moderate fine subangular blocky structure; hard, firm; sticky and moderately plastic; common very fine and fine roots; common fine vesicular pores; violently effervescent; moderately alkaline; clear smooth boundary.

Bk—16 to 80 inches; light brownish gray (2.5Y 6/2) silty clay loam, grayish brown (2.5Y 5/2) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few fine tubular pores; violently effervescent; many fine masses of calcium carbonate; moderately alkaline.

Range in Characteristics

A horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 to 4

Bw horizon:

Value: 5 to 7 dry, 4 or 5 moist

Chroma: 2 to 4

Bk horizon:

Value: 5 to 7 dry, 4 to 6 moist

Chroma: 2 to 4

Note: The calcium carbonate equivalent ranges from 40 to 55 percent in the profile.

Bracos Series

Map unit: 210

Depth class: moderately deep

Drainage class: well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Landform: mountain slopes

Parent material: slope alluvium and colluvium derived from igneous material

Elevation: 8,500 to 9,900 feet (2,591 to 3,018 meters)

Slope: 40 to 80 percent

Climatic data:

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Taxonomic class: Loamy-skeletal, mixed, nonacid Typic Cryorthents

Typical Pedon

Bracos very stony loam, in an area of map unit 210, Rock outcrop-Bracos complex, 40 to 80 percent slopes; about 2.1 miles east and 0.3 miles north of Corkens Lodge, New Mexico; New Mexico state plane coordinates 470,171 feet east and 2,097,402 feet north. NAD 83, UTM 13 — 40 69 567 N; 03 79 293 E.

Oi—0 to 3 inches; pine needles

A—3 to 8 inches; dark grayish brown (10YR 4/2) very stony loam, very dark grayish brown (10YR 3/2) moist; moderate medium granular structure; soft, very friable, slightly sticky and slightly plastic; many fine, common medium and very fine roots; few fine vesicular pores; 15 percent cobbles and 35 percent stones; moderately acid; clear wavy boundary.

C1—8 to 21 inches; pale brown (10YR 6/3) very stony loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, common fine and medium roots; few fine and very fine vesicular pores; 10 percent gravel, 15 percent cobbles and 35 percent stones; strongly acid; clear wavy boundary.

C2—21 to 29 inches; light brown (7.5YR 6/4) extremely stony sandy loam, brown (7.5YR 4/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; 20 percent gravel, 10 percent cobbles and 45 percent stones; strongly acid; abrupt wavy boundary.

R—29 inches; granite.

Range in Characteristics

A horizon:

Value: 3 or 4 dry

Texture, fine earth fraction: loam

Rock fragments: 0 to 20 percent gravel, 15 to 35 percent cobbles, and 15 to 35 percent stones

C horizon:

Hue: 10YR or 7.5YR

Value: 5 or 6 dry, 5 or 4 moist

Chroma: 3 or 4

Texture, fine earth fraction: loam or sandy loam

Rock fragments: 10 to 20 percent gravel, 10 to 20 percent cobbles, and 35 to 45 percent stones

Notes: The reaction is moderately acid or strongly acid; and the depth to bedrock ranges from 20 to 40 inches.

Brycan Series

Map unit: 228

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Landform: stream terraces

Parent material: stream alluvium derived from sandstone and shale

Elevation: 6,900 to 7,400 feet (2,103 to 2,256 meters)

Slope: 1 to 3 percent

Climatic data:

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Fine-loamy, mixed Cumulic Haploborolls

Typical Pedon

Brycan loam, in an area of map unit 228, Suposo-Brycan complex, 1 to 6 percent slopes; 5.6 miles southeast of Monero, New Mexico; New Mexico state plane coordinates 2,122,967 feet north and 337,344 feet east. NAD 83, UTM 13 — 40 77 888 N; 03 38 915 E.

A1—0 to 3 inches; dark brown (10YR 3/3) loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many fine and very fine interstitial pores; neutral; clear smooth boundary.

A2—3 to 10 inches; dark brown (10YR 3/3) loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure parting to moderate medium granular; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common fine and very fine tubular pores; neutral; clear smooth boundary.

Bw—10 to 30 inches; dark brown (10YR 3/3) clay loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; soft, very friable, moderately sticky and slightly plastic; few very fine and fine roots; common very fine tubular pores; slightly alkaline; gradual smooth boundary.

C—30 to 60 inches; brown (10YR 4/3) clay loam, dark brown (10YR 3/3) moist; massive; soft, very friable, moderately sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; slightly alkaline.

Range in Characteristics

A horizon:

Value: 3 or 4 dry

Bw horizon:

Value: 3 to 5 dry, 3 or 4 moist

Chroma: 2 or 3

C horizon:

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 3 or 4

Bywell Series

Map unit: 209

Depth class: very deep

Drainage class: poorly drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Landform: stream terraces

Parent material: stream alluvium derived from igneous material

Elevation: 9,700 to 10,400 feet (2,957 to 3,170 meters)

Slope: 0 to 2 percent

Climatic data:

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Taxonomic class: Loamy-skeletal, mixed Typic Cryaquolls

Typical Pedon

Bywell silt loam, in an area of map unit 209, Crubas-Bywell-Croftshaw complex, 0 to 15 percent slopes; about 11.8 miles east and 2.7 miles south of Chama, New Mexico; New Mexico state plane coordinates 2,134,230 feet north and 466,740 feet east. NAD 83, UTM 13 — 40 80 804 N; 03 78 394 E.

A1—0 to 4 inches; brown (10YR 5/3) silt loam, dark brown (10YR 3/3) moist; common fine distinct yellowish brown (10YR 5/8) mottles; moderate fine granular structure; soft, friable, slightly sticky and slightly plastic; many fine and very fine roots; many fine interstitial pores; moderately acid; abrupt smooth boundary.

A2—4 to 11 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; common fine distinct yellowish brown (10YR 5/8) mottles; moderate fine granular structure; soft, friable, slightly sticky and slightly plastic; many fine and very fine roots; many fine tubular pores; 10 percent gravel; slightly acid; abrupt smooth boundary.

2C1—11 to 25 inches; light yellowish brown (10YR 6/4) very cobbly sandy loam, dark yellowish brown (10YR 4/4) moist; common medium distinct yellowish brown (10YR 5/8) mottles; massive; soft, friable, slightly sticky and slightly plastic; common fine and very fine roots; common fine vesicular pores; 30 percent gravel and 25 percent cobbles; neutral; gradual smooth boundary.

2C2—25 to 30 inches; yellowish brown (10YR 5/4) very cobbly sandy loam, dark yellowish brown (10YR 3/4) moist; many medium distinct yellowish brown (10YR 5/8) mottles; massive; soft, friable, nonsticky and nonplastic; few very fine roots; few very fine vesicular pores; 20 percent gravel and 20 percent cobbles; neutral; abrupt smooth boundary.

2Cg1—30 to 42 inches; gray (10YR 5/1) very cobbly coarse sandy loam, dark gray (10YR 4/1) moist; many medium distinct yellowish brown (10YR 5/8) mottles; massive; soft, friable, nonsticky and nonplastic; 15 percent gravel and 20 percent cobbles; neutral; abrupt smooth boundary.

3Cg2—42 to 60 inches; gray (10YR 6/1) rounded gravel and cobbles.

Range in Characteristics

A horizon:

Value: 4 or 5 dry, 2 or 3 moist

Chroma: 2 or 3

Rock fragments: 0 to 10 percent gravel and 20 to 35 percent cobbles

2C horizon:*Value:* 4 to 6 dry, 3 to 5 moist*Chroma:* 3 or 4*Texture, fine earth fraction:* sandy loam or coarse sandy loam**2Cg horizon:***Hue:* 10YR or 2.5Y*Value:* 5 or 6 dry, 4 or 5 moist*Chroma:* 1 or 2*Texture, fine earth fraction:* sandy loam or coarse sandy loam

Notes: The reaction is neutral to moderately acid.

A water table may be present at the soil surface to a depth of 30 inches.

Rock fragments in the profile range from 35 to 55 percent cobbles and gravel.

The particle-size control section contains 10 to 18 percent clay.

Calaveras Series

Map unit: 710*Depth class:* very deep*Drainage class:* well drained*Slowest permeability:* 0.6 to 2.0 in./hr. (moderate)*Landform:* mountain slopes*Parent material:* colluvium derived from tuff*Elevation:* 8,500 to 10,000 feet (2,591 to 3,048 meters)*Slope:* 40 to 80 percent*Climatic data:**Mean annual precipitation:* 25 to 28 inches (635 to 711 millimeters)*Mean annual air temperature:* 40 to 44 degrees F. (4.4 to 6.7 degrees C.)*Frost-free period:* 70 to 90 days*Taxonomic class:* Loamy-skeletal, mixed, frigid Dystric Eutrochrepts

Typical Pedon

Calaveras very gravelly sandy loam, in an area of map unit 710, Calaveras-Palon very gravelly sandy loams, 40 to 80 percent slopes; about 2 miles north and 3.5 miles west of the entrance to Puye Cliffs; New Mexico state plane coordinates 1,818,800 feet north and 487,100 feet east. NAD 83, UTM 13 — 39 84 599 N; 03 83 352 E.

Oi—0 to 3 inches; fir needles

A—3 to 9 inches; light gray (10YR 7/2) very gravelly sandy loam, brown (7.5YR 4/2) moist; moderate fine granular structure; soft, friable, slightly sticky and nonplastic; common fine, and medium roots; many very fine and fine vesicular pores; 40 percent gravel and 10 percent cobbles; neutral; clear smooth boundary.

E1—9 to 25 inches; light gray (10YR 7/2) very cobbly sandy clay loam, brown (7.5YR 4/2) moist; weak fine and medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; many fine, common very fine and medium roots; many very fine and fine vesicular pores; 30 percent gravel, 20 percent cobbles and 10 percent stones; neutral; clear smooth boundary.

E2—25 to 38 inches; light gray (10YR 7/2) very cobbly sandy clay loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; hard, firm, moderately sticky and slightly plastic; common very fine, fine, medium and few coarse roots; many very fine and few fine vesicular, and few very fine tubular pores; 30 percent gravel, 20 percent cobbles and 10 percent stones; neutral; clear wavy boundary.

Bt—38 to 60 inches; pale brown (10YR 6/3) extremely cobbly sandy clay loam, brown (7.5YR 4/4) moist; moderate medium and coarse subangular blocky structure; hard, firm, moderately sticky and slightly plastic; few very fine, fine, medium and coarse roots; common very fine tubular and vesicular pores; clay bridging between sand grains; 25 percent gravel, 30 percent cobbles and 10 percent stones; neutral.

Range in Characteristics

A horizon:

Value: 6 or 7 dry, 4 or 5 moist

Chroma: 1 to 3

Rock fragments: 40 to 50 percent gravel and 5 to 10 percent cobbles

E horizon:

Value: 6 to 8 dry, 4 to 6 moist

Chroma: 1 to 4

Reaction: neutral or slightly acid

Rock fragments: 30 to 35 percent gravel, 20 to 40 percent cobbles, and 10 to 15 percent stones

Bt horizon:

Hue: 10YR or 7.5YR

Value: 5 to 7 dry, 4 or 5 moist

Chroma: 2 to 4

Reaction: neutral or slightly acid

Rock fragments: 25 to 30 percent gravel, 30 to 35 percent cobbles, and 10 to 15 percent stones

Calendar Series

Map unit: 109

Depth class: moderately deep

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: hills

Parent material: slope alluvium derived from shale

Elevation: 7,200 to 7,700 feet (2,195 to 2,347 meters)

Slope: 5 to 35 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Fine, mixed, mesic Aridic Ustochrepts

Typical Pedon

Calendar gravelly loam, in an area of map unit 109; Calendar gravelly loam, 5 to 35 percent slopes; about 1 mile south of Nutrias, New Mexico; southeast corner of Section 16, T.27N., R.4E.; New Mexico state plane coordinates 2,029,800 feet north and 420,200 feet east. NAD 83, UTM 13 — 40 49 164 N; 03 63 796 E.

A—0 to 2 inches; brown (10YR 4/3) gravelly loam, dark grayish brown (10YR 4/2) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; common fine interstitial pores; 25 percent gravel; strongly effervescent; slightly alkaline; clear smooth boundary.

2Bw—2 to 17 inches; grayish brown (2.5Y 5/2) clay, dark grayish brown (2.5Y 4/2) moist; moderate medium subangular blocky structure; very hard, firm, sticky, plastic; few very fine roots; few fine interstitial pores; strongly effervescent; moderately alkaline; clear smooth boundary.

2Bk—17 to 35 inches; very pale brown (10YR 7/3) clay, pale brown (10YR 6/3) moist; massive; very hard, firm, sticky, plastic; few very fine roots; few fine tubular pores; strongly effervescent; few fine masses of calcium carbonate; moderately alkaline; abrupt smooth boundary.

3Cr—35 inches; weathered shale.

Range in Characteristics

A horizon:

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 2 or 3

Rock fragments: 15 to 30 percent gravel

2Bw horizon:

Value: 5 to 7 dry, 4 to 6 moist

Chroma: 2 to 4

2Bk horizon:

Value: 6 to 8 dry, 4 to 6 moist

Chroma: 2 to 4

Depth to a paralithic contact: 20 to 40 inches

Note: The surface is covered with 25 to 35 percent gravel.

Capillo Series

Map units: 54, 141

Depth class: very deep

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: breaks and stream terraces

Parent material: fan and stream alluvium derived from sandstone and shale

Elevation: 7,000 to 8,500 feet (2,134 to 2,591 meters)

Slope: 0 to 10 percent

Climatic data:

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Fine, mixed Typic Argiborolls

Typical Pedon

Capillo loam, in an area of map unit 141, Capillo-Carjo-Vamer complex, 3 to 25 percent slopes; 5.4 miles southeast of Monero, New Mexico; New Mexico state plane coordinates 2,125,311 feet north and 340,000 feet east. NAD 83, UTM 13 — 40 78 591 N; 03 39 734 E.

A—0 to 4 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, slightly sticky and moderately plastic; common very fine and fine roots; common very fine tubular pores; neutral; clear smooth boundary.

BA—4 to 8 inches; dark grayish brown (10YR 4/2) silt loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable; sticky

and moderately plastic; few very fine and fine roots; few very fine tubular pores; neutral; clear smooth boundary.

Bt1—8 to 16 inches; yellowish brown (10YR 5/4) clay, dark brown (10YR 3/3) moist; moderate fine subangular structure; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few very fine vesicular pores; few thin clay film on faces of peds; neutral; clear smooth boundary.

Bt2—16 to 19 inches; light yellowish brown (10YR 6/4) clay, yellowish brown (10YR 5/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few very fine tubular pores; common medium clay films on faces of peds; neutral; clear smooth boundary.

Bt3—19 to 24 inches; light yellowish brown (10YR 6/4) clay, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few very fine tubular pores; few medium clay films on faces of peds; neutral; gradual smooth boundary.

C—24 to 60 inches; brownish yellow (10YR 6/6) clay loam, dark yellowish brown (10YR 4/4) moist; massive; hard, firm, moderately sticky and moderately plastic; slightly alkaline.

Range in Characteristics

A horizon

Value: 4 or 5 dry and 2 or 3 moist

Texture, fine earth fraction: loam or silt loam

BA horizon

Value: 3 to 5 dry, 2 or 3 moist

Chroma: 2 or 3

Texture, fine earth fraction: silt loam or loam

Bt horizon:

Value: 4 to 6 when dry, 3 to 5 moist

Chroma: 3 or 4

Texture, fine earth fraction: clay or silty clay loam

C horizon:

Hue: 7.5YR or 10YR

Value: 5 or 6 dry, 4 or 5 moist

Texture, fine earth fraction: clay or clay loam

Carjo Series

Map units: 132, 141

Depth class: moderately deep

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: breaks, hills and ridges

Parent material: slope alluvium and colluvium derived from sandstone and shale

Elevation: 7,000 to 8,300 feet (2,134 to 2,530 meters)

Slope: 3 to 20 percent

Climatic data:

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Fine, mixed Mollic Eutroboralfs

Typical Pedon

Carjo very flaggy loam, in an area of map unit 132, Stout-Rock outcrop-Carjo complex, 5 to 20 percent slopes; about 8 miles west of Los Ojos on Oilwell Mesa, New Mexico; New Mexico state plane coordinates 2,083,954 feet north and 363,906 feet east. NAD 83, UTM 13 — 40 65 892 N; 03 46 855 E.

- A—0 to 5 inches; very dark grayish brown (10YR 3/2) very flaggy loam, very dark gray (10YR 3/1) moist; weak coarse subangular blocky structure parting to weak fine granular; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; common fine interstitial pores; 10 percent sandstone channers, 25 percent flagstones; neutral; abrupt smooth boundary.
- E—5 to 10 inches; pale brown (10YR 6/3) flaggy clay loam, brown (10YR 5/3) moist; weak coarse subangular blocky structure; hard, friable, moderately sticky and slightly plastic; common very fine, fine, and medium roots; common fine and very fine interstitial pores; 5 percent sandstone channers and 15 percent flagstones; neutral; clear wavy boundary.
- Bt1—10 to 13 inches; dark brown (10YR 3/3) clay loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine, common fine and medium roots; few fine tubular pores; few moderately thick clay films on faces of peds; 5 percent sandstone channers; neutral; abrupt smooth boundary.
- Bt2—13 to 23 inches; brown (7.5YR 4/4) clay loam, brown (7.5YR 4/4) moist; strong medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common very fine, fine and few medium roots; few fine tubular pores; many thick clay films on faces of peds; 5 percent sandstone channers; neutral; clear wavy boundary.
- Bt3—23 to 38 inches; strong brown (7.5YR 4/6) clay, strong brown (7.5YR 4/6) moist; strong coarse subangular blocky structure; very hard, very firm, very sticky and very plastic; few fine, medium and coarse roots; few fine tubular pores; many thick clay films on faces of peds; neutral.
- 2R—38 inches; sandstone bedrock.

Range in Characteristics

A horizon:

Value: 3 to 5 dry, 2 or 3 moist

Chroma: 1 to 4

Rock fragments: 10 to 15 percent channers and 5 to 35 percent flagstones

E horizon (when present):

Rock fragments: 0 to 5 percent channers and 10 to 30 percent flagstones

Bt horizon:

Hue: 10YR or 7.5YR

Value: 3 to 6 dry, 2 to 5 moist

Chroma: 2 to 6

Texture, fine earth fraction: clay loam or clay

Rock fragments: 0 to 10 percent channers

Note: Soil depth ranges from 20 to 40 inches to sandstone or shale bedrock.

Carrick Series

Map unit: 133

Depth class: very deep

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: stream terraces

Parent material: eolian material and stream alluvium derived from volcanic material

Elevation: 7,200 to 7,600 feet (2,195 to 2,316 meters)

Slope: 1 to 4 percent

Climatic data:

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Fine, mixed Typic Eutroboralfs

Typical Pedon

Carrick silt loam, in an area of map unit 133, Carrick silt loam, 1 to 4 percent slopes; about 0.5 mile west and 1.5 miles north of Tierra Amarilla, New Mexico; New Mexico state plane coordinates 2,083,530 feet north and 413,480 feet east. NAD 83, UTM 13 — 40 65 565 N; 03 61 961 E.

A—0 to 3 inches; strong brown (7.5YR 5/6) silt loam, brown (7.5YR 4/4) moist; moderate fine granular structure; soft, very friable, moderately sticky and moderately plastic; few medium and coarse and common very fine roots; many fine interstitial pores; slightly alkaline; abrupt smooth boundary.

Bt1—3 to 9 inches; brown (7.5YR 5/4) silty clay loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; very hard, very firm, moderately sticky and moderately plastic; few medium, many fine and common very fine roots; few fine tubular pores; few thin clay films on faces of peds; neutral; abrupt wavy boundary.

Bt2—9 to 21 inches; brown (7.5YR 5/4) silty clay, brown (7.5YR 4/4) moist; strong medium and coarse subangular blocky structure; very hard, very firm, moderately sticky and very plastic; few medium, common fine and very fine roots; few fine tubular pores; few thin clay films on faces of peds; neutral; clear wavy boundary.

Bt3—21 to 38 inches; brown (7.5YR 5/4) silty clay, brown (7.5YR 4/4) moist; moderate medium prismatic structure parting to moderate medium subangular blocky; very hard, very firm, moderately sticky and moderately plastic; few medium, common fine and very fine roots; few fine tubular pores; many moderately thick clay films on faces of peds; neutral; gradual wavy boundary.

Bt4—38 to 60 inches; strong brown (7.5YR 5/6) silty clay, strong brown (7.5YR 4/6) moist; moderate coarse subangular blocky structure; very hard, very firm, moderately sticky and moderately plastic; common fine and very fine roots; few fine tubular pores; common thin clay films on faces of peds; neutral.

Range in Characteristics

Reaction: neutral to slightly alkaline

A horizon:

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 4 to 6

Bt horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 4 to 6

Texture, fine earth fraction: silty clay loam or silty clay

Chamita Series

Map units: 117, 118

Depth class: very deep

Drainage class: poorly drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: flood plains

Parent material: stream alluvium derived from mixed sources

Elevation: 7,800 to 8,700 feet (2,377 to 2,652 meters)

Slope: 0 to 2 percent

Climatic data:

Mean annual precipitation: 18 to 25 inches (457 to 635 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Fine-loamy, mixed, frigid Cumulic Haplaquolls

Typical Pedon

Chamita loam, in an area of map unit 117, Chamita loam, 0 to 2 percent slopes; about 3 miles north and 2.5 miles west of Chama, New Mexico; New Mexico state plane coordinates 2,166,920 feet north and 387,860 feet east. NAD 83, UTM 13 — 40 91 081 N; 03 54 486 E.

- A1—0 to 7 inches; dark grayish brown (10YR 4/2) loam, black (10YR 2/1) moist; strong medium granular structure; slightly hard, friable, slightly sticky and moderately plastic; many very fine and fine roots; many fine interstitial pores; neutral; clear smooth boundary.
- A2—7 to 16 inches; dark grayish brown (10YR 4/2) loam, black (10YR 2/1) moist; few medium distinct yellowish brown (10YR 5/8) mottles; moderate medium subangular blocky structure; hard, friable, slightly sticky and moderately plastic; many very fine, fine and few medium roots; many fine interstitial pores; neutral; clear smooth boundary.
- A3—16 to 25 inches; dark grayish brown (10YR 4/2) loam, black (10YR 2/1) moist; few medium distinct yellowish brown (10YR 5/8) mottles; moderate fine subangular blocky structure; hard, friable, slightly sticky and moderately plastic; common very fine, fine and few medium roots; common fine tubular pores; neutral; clear smooth boundary.
- Cg1—25 to 36 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; many medium and large distinct yellowish brown (10YR 5/8) mottles; massive; slightly hard, firm, moderately sticky and moderately plastic; few very fine and medium roots; few fine tubular pores; neutral; clear smooth boundary.
- Cg2—36 to 55 inches; light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; common large distinct strong brown (7.5YR 5/8) mottles; massive; hard, firm, moderately sticky and moderately plastic; few very fine and medium roots; few fine tubular pores; neutral; abrupt smooth boundary.
- Cg3—55 to 60 inches; grayish brown (10YR 5/2) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; few fine faint yellowish brown (10YR 5/8) mottles; massive; slightly hard, friable, slightly sticky and moderately plastic; 30 percent fine gravel; neutral.

Range in Characteristics

A horizon:

Value: 5 or 4 dry

Chroma: 1 or 2

Texture, fine earth fraction: loam or clay loam

Cg horizon:

Value: 4 or 6 dry, 2 to 4 moist

Chroma: 2 or 3

Texture, fine earth fraction: loam, sandy loam, or clay loam

Rock fragments: 0 to 35 percent gravel

Note: A water table may occur within 1 to 3 feet of the surface.

Chimayo Series

Map unit: 147

Depth class: shallow

Drainage class: well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Landform: sideslopes of hills

Parent material: slope alluvium derived from mixed sources

Elevation: 6,600 to 7,800 feet (2,012 to 2,377 meters)

Slope: 20 to 50 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Loamy-skeletal, mixed, nonacid, mesic Lithic Ustorthents

Typical Pedon

Chimayo very gravelly sandy loam, in an area of map unit 147, Dermal-Chimayo complex, 20 to 50 percent slopes; about 2 miles north and 0.6 miles west of Ojo Caliente, New Mexico on the north side of Canada Pueblo, east of Cerro Colorado; 1,400 feet west and 1,100 feet south of the northeast corner of Section 11, T.24N, R.8E.

A—0 to 3 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine interstitial pores; 55 percent gravel; neutral; abrupt smooth boundary.

C—3 to 13 inches; dark yellowish brown (10YR 4/4) gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; common very fine tubular pores; 35 percent gravel, slightly alkaline; abrupt smooth boundary.

R—13 inches; sandstone bedrock.

Range in Characteristics

A horizon:

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 3 or 4

Rock fragments: 40 to 55 percent gravel

C horizon:

Value: 4 or 5 dry, 3 or 4 moist*Chroma:* 3 or 4*Rock fragments:* 20 to 40 percent gravel*Depth to bedrock:* 10 to 20 inches**Chiminet Series***Map unit:* 401*Depth class:* shallow*Drainage class:* well drained*Slowest permeability:* 2.0 to 6.0 in./hr. (moderately rapid)*Landform:* sideslopes of buttes and summits of mesas*Parent material:* residuum derived from tuff*Elevation:* 6,800 to 8,000 feet (2,073 to 2,438 meters)*Slope:* 5 to 40 percent*Climatic data:**Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 45 to 49 degrees F. (7.2 to 9.4 degrees C.)*Frost-free period:* 100 to 130 days*Taxonomic class:* Loamy, mixed, nonacid, mesic, shallow Typic Ustorthents**Typical Pedon**

Chiminet sandy loam, in an area of map unit 401, Chiminet-Rock outcrop association, 5 to 40 percent slopes; about 1 mile west and 0.2 mile south of Puye cliff dwellings; New Mexico state plane coordinates 1,810,200 feet north and 495,000 feet east. NAD 83, UTM 13 — 39 81 947 N; 03 85 726 E.

Oi—0 to 1 inch; pine needles

A—1 inch to 3 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; many very fine and common fine vesicular pores; 5 percent gravel; neutral; abrupt smooth boundary.

C—3 to 10 inches; light brownish gray (10YR 6/2) gravelly sandy loam, brown (10YR 4/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; common very fine and fine, few medium and coarse roots; few fine tubular pores; 25 percent gravel and 5 percent cobbles; slightly acid; clear broken boundary.

Cr—10 inches; soft tuff

Range in Characteristics

A horizon:

Value: 5 or 6 dry, 4 or 5 moist*Chroma:* 2 or 3*Reaction:* neutral or slightly alkaline*Rock fragments:* 0 to 15 percent gravel

C horizon:

Value: 5 or 6 dry, 4 or 5 moist*Chroma:* 2 or 3*Reaction:* neutral to slightly acid*Rock fragments:* 20 to 30 percent gravel and 0 to 5 percent cobbles

Chita Series

Map unit: 148

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: summits of mesas

Parent material: eolian material and slope alluvium derived from sandstone and igneous material

Elevation: 6,000 to 7,000 feet (1,829 to 2,134 meters)

Slope: 0 to 5 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Fine-silty, mixed, mesic Aridic Haplustalfs

Typical Pedon

Chita loam, in an area of map unit 148, Chita loam, 0 to 5 percent slopes; about 0.7 miles north and 1.7 miles west of Lyden Bridge; New Mexico state plane coordinates 1,876,400 feet north and 562,900 feet east. NAD 83, UTM 13 — 40 01 855 N; 04 06 676 E.

- A—0 to 3 inches; very pale brown (10YR 7/3) loam, brown (10YR 5/3) moist; weak thin platy structure; soft, very friable, slightly sticky and moderately plastic; common very fine and fine roots; common very fine tubular pores; slightly alkaline; abrupt smooth boundary.
- BA—3 to 5 inches; brown (7.5YR 5/4) loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine continuous tubular pores; slightly alkaline; clear smooth boundary.
- Bt—5 to 10 inches; brown (7.5YR 5/4) loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine roots; common very fine and few medium continuous tubular pores; few thin clay films on faces of peds; slightly alkaline; clear smooth boundary.
- Btk1—10 to 16 inches; light brown (7.5YR 6/4) clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine roots, common very fine continuous tubular pores; common moderately thick clay films on faces of peds and in pores; strongly effervescent; few fine rounded masses of calcium carbonate; moderately alkaline; clear smooth boundary.
- Btk2—16 to 30 inches; light brown (10YR 6/4) silty clay loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few fine roots; few fine continuous tubular pores; common thin clay films on faces of peds and in pores; strongly effervescent; common fine irregular and rounded masses of calcium carbonate; moderately alkaline; gradual smooth boundary.
- Bk1—30 to 38 inches; light brown (7.5YR 6/4) clay loam, brown (7.5YR 4/4) moist; massive; hard, firm, moderately sticky and moderately plastic; few fine roots; few fine continuous tubular pores; strongly effervescent; few fine irregular masses of calcium carbonate; moderately alkaline; clear wavy boundary.

2Bk2—38 to 60 inches; white (10YR 8/1) gravelly sandy clay loam, very pale brown (10YR 7/3) moist; massive; hard, friable, moderately sticky and slightly plastic; violently effervescent; many medium and large rounded and irregular nodules and masses of calcium carbonate; 15 percent gravel and 5 percent cobbles; moderately alkaline.

Range in Characteristics

A horizon:

Value: 4 to 7 dry, 4 or 5 moist

Chroma: 3 or 4

Bt and Btk horizons:

Value: 4 to 6 dry, 4 or 5 moist

Chroma: 3 or 4

Texture, fine earth fraction: clay loam, silty clay loam, or loam

Bk and 2Bk horizons:

Value: 6 to 8 dry, 4 to 7 moist

Chroma: 1 to 5

Texture, fine earth fraction: clay loam or sandy clay loam

Calcium carbonate equivalent: 25 to 35 percent

Rock fragments: 15 to 25 percent gravel and 0 to 5 percent cobbles

Chrishall Series

Map unit: 704

Depth class: very deep

Drainage class: well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Landform: stream terraces

Parent material: slope alluvium derived from volcanic material

Elevation: 6,400 to 9,000 feet (1,951 to 2,743 meters)

Slope: 1 to 15 percent

Climatic data:

Mean annual precipitation: 18 to 25 inches (457 to 635 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Coarse-loamy, mixed Pachic Haploborolls

Typical Pedon

Chrishall gravelly loam, in an area of map unit 704, Chrishall gravelly loam, 1 to 15 percent slopes; about 7 miles north and 4 miles west of Los Alamos, New Mexico; New Mexico state plane coordinates 1,811,100 feet north and 462,200 feet east. NAD 83, UTM 13 — 39 82 350 N; 03 75 734 E.

A1—0 to 17 inches; dark grayish brown (10YR 4/2) gravelly loam, black (10YR 2/1) moist; moderate fine and medium granular structure; soft, very friable, moderately sticky and moderately plastic; many very fine, fine and common medium roots; common very fine, fine and few medium vesicular pores; 20 percent gravel; slightly acid; clear smooth boundary.

A2—17 to 38 inches; dark gray (10YR 4/1) gravelly fine sandy loam, black (10YR 2/1) moist; moderate fine and medium granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine and few medium roots; common very fine, fine and few medium vesicular pores; 15 percent gravel; neutral; clear smooth boundary.

Bw—38 to 55 inches; pale brown (10YR 6/3) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine, fine and few medium roots; common fine and medium vesicular pores; few thin 0.20 inch sandy loam lamellae; 30 percent gravel; neutral; clear wavy boundary.

C—55 to 60 inches; pale brown (10YR 6/3) gravelly sandy loam, dark brown (10YR 3/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; common fine and medium vesicular pores; 30 percent gravel; neutral.

Range in Characteristics

A horizon:

Hue: 2.5Y or 10YR

Value: 4 or 5 dry, 2 or 3 moist

Chroma: 1 to 3

Rock fragments: 15 to 25 percent gravel

Bw and C horizons:

Hue: 2.5Y or 10YR

Value: 6 to 8 dry, 3 to 5 moist

Chroma: 2 to 4

Rock fragments: 15 to 35 percent gravel

Colomex Series

Map unit: 61

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Landform: stream terraces

Parent material: stream alluvium derived from igneous material

Elevation: 7,500 to 8,200 feet (2,286 to 2,499 meters)

Slope: 0 to 3 percent

Climatic data:

Mean annual precipitation: 18 to 25 inches (457 to 635 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Loamy-skeletal, mixed Mollic Eutroboralfs

Typical Pedon

Colomex gravelly silt loam, in an area of map unit 61, Colomex gravelly silt loam, 0 to 3 percent slopes; about 25 yards south of P. Gallegos Memorial Park baseball field in Chama, New Mexico; New Mexico state plane coordinates 2,143,684 feet north and 402,105 feet east. NAD 83, UTM 13 — 40 83 943 N; 03 58 734 E.

A1—0 to 3 inches; brown (10YR 5/3) gravelly silt loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine interstitial pores; 15 percent gravel and 5 percent cobbles; slightly alkaline; clear smooth boundary.

A2—3 to 6 inches; brown (10YR 5/3) gravelly silt loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine tubular pores; 15 percent gravel and 5 percent cobbles; neutral; clear smooth boundary.

2Bt1—6 to 12 inches; light brown (7.5YR 6/4) gravelly sandy clay loam, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; slightly hard, firm, moderately sticky and moderately plastic; common very fine and fine roots; common very fine and fine pores; clay films bridging sand grains and coating rock fragments; 20 percent gravel and 10 percent cobbles; neutral; clear smooth boundary.

2Bt2—12 to 34 inches; brown (7.5YR 4/4) extremely cobbly sandy clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine roots; common very fine and fine pores; clay films bridging sand grains and coating rock fragments; 40 percent gravel and 40 percent cobbles; neutral; gradual wavy boundary.

3Bt3—34 to 60 inches; brown (7.5YR 4/4) very gravelly loamy sand, brown (7.5YR 4/4) moist; weak fine subangular blocky structure; soft, loose, nonsticky and nonplastic; few very fine and fine roots; common very fine and fine pores; clay films coating rock fragments; 40 percent gravel and 10 percent cobbles; neutral.

Range in Characteristics

A horizon:

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 2 or 3

Rock fragments: 15 to 20 percent gravel and 0 to 5 percent cobbles

2Bt and 3Bt horizons:

Value: 4 to 6 dry, 4 or 5 moist

Rock fragments: 20 to 40 percent gravel, 10 to 40 percent cobbles, and 0 to 5 percent stones

Croftshaw Series

Map units: 208, 209

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: mountain slopes and stream terraces

Parent material: colluvium derived from igneous material

Elevation: 9,500 to 10,400 feet (2,896 to 3,170 meters)

Slope: 3 to 20 percent

Climatic data:

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Taxonomic class: Fine-loamy, mixed Argic Cryoborolls

Typical Pedon

Croftshaw loam, in an area of map unit 209, Crubas-Bywell-Croftshaw complex, 0 to 15 percent slopes; about 15.7 miles east and 5.3 miles south of Chama, New Mexico; New Mexico state plane coordinates 2,119,060 feet north and 485,135 feet east. NAD 83, UTM 13 — 40 76 108 N; 03 83 939 E.

A—0 to 8 inches; brown (10YR 4/3) loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; soft, friable, slightly sticky and slightly plastic; few medium and fine roots; few very fine and fine interstitial pores; 5 percent gravel; slightly acid; clear smooth boundary.

- Bt1—8 to 14 inches; brown (10YR 4/3) clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few fine and common very fine roots; few fine and common very fine tubular pores; common moderately thick clay films on faces of peds; 5 percent gravel; moderately acid; clear wavy boundary.
- Bt2—14 to 28 inches; brownish yellow (10YR 6/6) clay loam, dark yellowish brown (10YR 4/4) moist; weak fine and medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few fine and very fine roots; few fine and very fine tubular pores; common thin clay films on faces of peds; few sand-size glass shards; 10 percent gravel; moderately acid; gradual wavy boundary.
- 2C—28 to 60 inches; very pale brown (10YR 7/3) sandy loam, brown (10YR 5/3) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; few sand-size glass shards; 10 percent gravel; slightly acid.

Range in Characteristics

A horizon:

Value: 3 or 4 dry, 2 or 3 moist

Chroma: 2 or 3

Rock fragments: 0 to 10 percent gravel

Bt horizon:

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 3 to 6

Rock fragments: 5 to 15 percent gravel

2C horizon (when present):

Value: 6 or 7 dry, 5 or 6 moist

Chroma: 3 to 6

Texture, fine earth fraction: clay loam or sandy loam

Rock fragments: 5 to 15 percent gravel

Crubas Series

Map unit: 209

Depth class: very deep

Drainage class: poorly drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: stream terraces and swales

Parent material: stream alluvium derived from igneous material

Elevation: 9,700 to 10,400 feet (2,957 to 3,170 meters)

Slope: 0 to 2 percent

Climatic data:

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Taxonomic class: Fine, mixed Typic Cryaquolls

Typical Pedon

Crubas clay loam, in an area of map unit 209, Crubas-Bywell-Croftshaw complex, 0 to 15 percent slopes; about 13 miles east and 4 miles south of Chama, New Mexico; New Mexico state plane coordinates 2,127,490 feet north and 440,625 feet east. NAD 83, UTM 13 — 40 78 854 N; 03 70 409 E.

Oi—0 to 3 inches; pine needles

A—3 to 15 inches; dark grayish brown (10YR 4/2) clay loam, very dark brown (10YR 2/2) moist; common medium distinct strong brown (7.5YR 5/8) mottles; weak fine granular structure; soft, very friable, moderately sticky and moderately plastic; many fine and very fine roots; common fine and very fine interstitial pores; strongly acid; abrupt smooth boundary.

Cg1—15 to 37 inches; gray (10YR 6/1) clay, gray (10YR 5/1) moist; common medium distinct strong brown (7.5YR 5/8) mottles; massive; very hard, firm, very sticky and very plastic; few fine and very fine roots; few fine and common very fine tubular pores; strongly acid; clear wavy boundary.

2Cg2—37 to 60 inches; gray (10YR 6/1) gravelly clay, gray (10YR 5/1) moist; many large distinct strong brown (7.5YR 5/8) mottles; massive; hard, firm, very sticky and very plastic; few very fine roots; few very fine tubular pores; 20 percent gravel; strongly acid.

Range in Characteristics

A horizon:

Value: 2 or 3 moist

Cg horizon:

Value: 5 or 6 dry

Chroma: 1 or 2

2Cg horizon:

Value: 5 or 6 dry

Chroma: 1 or 2

Rock fragments: 15 to 30 percent gravel

Note: A water table may occur within 20 inches of the surface.

Dermala Series

Map units: 145, 147

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: hills

Parent material: old slope alluvium over colluvium derived from igneous and sedimentary rock

Elevation: 6,500 to 7,800 feet (1,981 to 2,377 meters)

Slope: 20 to 50 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Fine-loamy, mixed, mesic Aridic Haplustalfs

Typical Pedon

Dermala very gravelly loam, in an area of map unit 145, Dermala-Rosced complex, 20 to 50 percent slopes; about 5 miles north and 2.5 miles east of Chimayo, New Mexico; New Mexico state plane coordinate 1,848,000 feet north and 603,800 feet east. NAD 83, UTM 13 — 39 93 041 N; 04 19 027 E.

- A—0 to 3 inches; dark yellowish brown (10YR 4/4) very gravelly loam, dark yellowish brown (10YR 3/4) moist; weak medium granular structure; soft, friable, slightly sticky and slightly plastic; many very fine and common fine roots; common very fine continuous tubular pores; 40 percent gravel and 10 percent cobbles; slightly alkaline; clear smooth boundary.
- Bt—3 to 12 inches; brown (7.5YR 5/4) clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, firm, moderately sticky and moderately plastic; common very fine, fine and medium roots; common very fine and fine continuous tubular pores; few thin clay films on faces of peds; 10 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- Btk1—12 to 32 inches; brown (7.5YR 5/4) gravelly clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine and common medium roots; common fine continuous tubular pores; common moderately thick clay films on faces of peds and in pores; strongly effervescent; few fine rounded and irregular masses of calcium carbonate; 25 percent gravel and 5 percent cobbles; moderately alkaline; clear smooth boundary.
- Btk2—32 to 49 inches; brown (7.5YR 5/4) clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common fine roots; few fine continuous tubular pores; few thin clay films on faces of peds; slightly effervescent; few fine rounded masses of calcium carbonate; 5 percent gravel; moderately alkaline; clear smooth boundary.
- C—49 to 60 inches; brown (7.5YR 5/4) clay loam, brown (7.5YR 4/4) moist; massive; hard, firm, moderately sticky and moderately plastic; few fine roots; common fine continuous tubular pores; 5 percent gravel; slightly effervescent; slightly alkaline.

Range in Characteristics

A horizon:

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 3 or 4

Rock fragments: 35 to 45 percent gravel and 5 to 10 percent cobbles

Bt and Btk horizons:

Hue: 7.5YR or 10YR

Value: 5 or 6 dry, 4 or 5 moist

Rock fragments: 5 to 25 percent gravel and 0 to 5 percent cobbles

C horizon:

Hue: 10YR or 7.5YR

Value: 5 to 7 dry, 4 to 6 moist

Texture, fine earth fraction: loamy sand, sandy loam, or clay loam

Rock fragments: 5 to 25 percent gravel and 0 to 5 percent cobbles

Doslomas Series

Map unit: 65

Depth class: very deep

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: stream terraces

Parent material: stream alluvium derived from sandstone and shale

Elevation: 7,000 to 8,000 feet (2,134 to 2,438 meters)

Slope: 0 to 3 percent

*Climatic data:**Mean annual precipitation:* 18 to 25 inches (457 to 635 millimeters)*Mean annual air temperature:* 40 to 45 degrees F. (4.4 to 7.2 degrees C.)*Frost-free period:* 80 to 100 days*Taxonomic class:* Clayey over sandy or sandy-skeletal, mixed Typic Argiborolls**Typical Pedon**

Doslomas loam, in an area of map unit 65, Doslomas loam, 0 to 3 percent slopes; about 0.2 mile south of Chama, New Mexico; New Mexico state plane coordinates 2,132,900 feet north and 404,500 feet east. NAD 83, UTM 13 — 40 80 647 N; 03 59 421 E.

A—0 to 7 inches; dark grayish brown (10YR 4/2) loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine and fine roots; few very fine pores; neutral; abrupt smooth boundary.

Bt1—7 to 12 inches; yellowish brown (10YR 5/4) clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, firm, very sticky and very plastic; common fine and few coarse roots; few very fine and fine pores; few thin clay films on faces of peds; 5 percent gravel; neutral; clear smooth boundary.

Bt2—12 to 28 inches; yellowish brown (10YR 5/4) clay, dark yellowish brown (10YR 3/4) moist; strong coarse subangular blocky structure; hard, firm, very sticky and very plastic; few fine and medium roots; few very fine and fine pores; common moderately thick clay films on faces of peds; 5 percent gravel; slightly alkaline; abrupt wavy boundary.

2C—28 to 60 inches; brown (10YR 5/3) extremely cobbly coarse sand, dark brown (10YR 3/3) moist; single grain; loose, nonsticky and nonplastic; few fine roots; 30 percent gravel and 40 percent cobbles; slightly alkaline.

Range in Characteristics**A horizon:***Value:* 3 or 4 dry, 2 or 3 moist*Chroma:* 2 or 3*Rock fragments:* 0 to 10 percent gravel**Bt horizon:***Value:* 4 or 5 dry, 3 or 4 moist*Chroma:* 3 or 4*Texture, fine earth fraction:* clay loam or clay*Rock fragments:* 0 to 10 percent gravel**2C horizon:***Value:* 4 or 5 dry, 3 or 4 moist*Chroma:* 3 or 4*Rock fragments:* 25 to 45 percent gravel and 35 to 45 percent cobbles**Dula Series***Map units:* 64*Depth class:* very deep*Drainage class:* poorly drained*Slowest permeability:* 0.6 to 2.0 in./hr. (moderate)*Landform:* flood plains*Parent material:* stream alluvium derived from sandstone and shale*Elevation:* 7,000 to 8,000 feet (2,134 to 2,438 meters)

Slope: 0 to 2 percent

Climatic data:

Mean annual precipitation: 18 to 25 inches (457 to 635 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Fine-loamy over sandy or sandy-skeletal, mixed, frigid Cumulic Haplaquolls

Typical Pedon

Dula loam, in an area of map unit 64, Dula loam, 0 to 2 percent slopes; within the village limits of Chama, New Mexico; New Mexico state plane coordinates 2,143,947 feet north and 403,940 feet east. NAD 83, UTM 13 — 40 84 016 N; 03 59 295 E.

A1—0 to 4 inches; dark grayish brown (10YR 4/2) loam, very dark brown (10YR 2/2) moist; strong medium granular structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine and fine roots; common fine interstitial pores; neutral; abrupt smooth boundary.

A2—4 to 11 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; few fine faint yellowish brown (10YR 5/4) mottles; moderate coarse granular structure; slightly hard, friable, moderately sticky and moderately plastic; many fine and common very fine roots; common fine tubular pores; neutral; clear smooth boundary.

Bg1—11 to 18 inches; grayish brown (2.5Y 5/2) loam, very dark grayish brown (2.5Y 3/2) moist; few fine distinct yellowish brown (10YR 5/8) mottles; massive; slightly hard, friable, slightly sticky and slightly plastic; common fine roots; few fine tubular pores; neutral; clear smooth boundary.

Bg2—18 to 28 inches; grayish brown (2.5Y 5/2) loam, very dark grayish brown (2.5Y 3/2) moist; many medium distinct reddish yellow (7.5YR 6/8) mottles; massive; slightly hard, friable, moderately sticky and moderately plastic; few fine roots; few fine tubular pores; neutral; clear smooth boundary.

2C—28 to 60 inches; variegated extremely gravelly coarse sand; single grain; loose, nonsticky and nonplastic; few fine roots; 60 percent gravel and 10 percent cobbles; neutral.

Range in Characteristics

Note: A water table may occur within 12 to 42 inches of the surface.

A horizon:

Value: 4 or 5 dry, 2 or 3 moist

Chroma: 2 or 3

Bg and 2C horizons:

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 1 to 4

Rock fragments: 40 to 60 percent gravel and 10 to 25 percent cobbles in the 2C horizon

Elbuck Series

Map unit: 203

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Landform: mountain slopes

Parent material: slope alluvium and colluvium derived from sandstone and shale

Elevation: 7,700 to 8,900 feet (2,347 to 2,713 meters)

Slope: 5 to 20 percent

Climatic data:

Mean annual precipitation: 25 to 28 inches (635 to 711 millimeters)

Mean annual air temperature: 40 to 44 degrees F. (4.4 to 6.7 degrees C.)

Frost-free period: 70 to 90 days

Taxonomic class: Fine-loamy, mixed Typic Eutroboralfs

Typical Pedon

Elbuck gravelly loam, in an area of map unit 203, Nabor-Elbuck complex, 5 to 35 percent slopes; about 1.8 miles east and 0.6 miles north of Chama, New Mexico; New Mexico state plane coordinates 2,151,125 feet north and 413,315 feet east. NAD 83, UTM 13 — 40 86 166 N; 03 62 180 E.

A—0 to 3 inches; very dark grayish brown (10YR 3/2) gravelly loam, very dark brown (10YR 2/2) moist; moderate fine granular structure; soft, friable, slightly sticky and slightly plastic; few medium, coarse, common fine and very fine roots; common very fine vesicular pores; 25 percent gravel, 5 percent cobbles; neutral; abrupt wavy boundary.

Bt1—3 to 14 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; weak medium subangular blocky structure parting to moderate fine granular; hard, firm, slightly sticky and slightly plastic; few medium, fine and very fine roots; common very fine tubular pores; common thin clay films on faces of peds; 20 percent gravel; moderately acid; clear wavy boundary.

Bt2—14 to 45 inches; pale brown (10YR 6/3) gravelly clay loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; very hard, very firm, moderately sticky and moderately plastic; few coarse and common medium roots; few very fine tubular pores; common thin clay films on faces of peds; 20 percent gravel; moderately acid; gradual wavy boundary.

C—45 to 60 inches; light brownish gray (10YR 6/2) gravelly clay loam, dark grayish brown (10YR 4/2) moist; massive; very hard, very firm, moderately sticky and moderately plastic; few coarse and very fine roots; few very fine pores; 20 percent gravel; moderately acid.

Range in Characteristics

A horizon:

Rock fragments: 15 to 30 percent gravel and 0 to 5 percent cobbles

Bt and C horizons:

Rock fragments: 15 to 25 percent gravel and 0 to 10 percent cobbles

Elpedro Series

Map unit: 136

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: fan remnants and hills

Parent material: old alluvium derived from sandstone and shale

Elevation: 6,500 to 7,400 feet (1,981 to 2,256 meters)

Slope: 1 to 5 percent

*Climatic data:**Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 45 to 49 degrees F. (7.2 to 9.4 degrees C.)*Frost-free period:* 100 to 130 days*Taxonomic class:* Fine-silty, mixed, mesic Aridic Haplustalfs**Typical Pedon**

Elpedro silt loam, in an area of map unit 136, Elpedro silt loam, 1 to 5 percent slopes; 2.2 miles west and 2.7 miles south of the Spills Ranch Headquarters, New Mexico. New Mexico state plane coordinates 2,030,050 feet north and 408,330 feet east. NAD 83, UTM 13 — 40 49 287 N; 03 60 179 E.

A—0 to 3 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; moderate fine granular structure; soft, very friable, slightly sticky and moderately plastic; few fine and medium roots; few fine tubular pores; violently effervescent; moderately alkaline; abrupt smooth boundary.

Bt—3 to 25 inches; light yellowish brown (10YR 6/4) silty clay loam, yellowish brown (10YR 5/4) moist; moderate medium subangular blocky structure; hard, very friable, moderately sticky and slightly plastic; common very fine and few fine roots; many fine and few very fine tubular pores; few thin clay films on faces of peds; strongly effervescent; few fine seams of calcium carbonate; moderately alkaline; abrupt irregular boundary.

Bk1—25 to 34 inches; light yellowish brown (10YR 6/4) silty clay loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, very friable, moderately sticky and slightly plastic; few very fine and fine roots; few fine tubular pores; strongly effervescent; few fine seams and threads of calcium carbonate; moderately alkaline; clear wavy boundary.

Bk2—34 to 47 inches; light yellowish brown (10YR 6/4) silty clay loam, yellowish brown (10YR 5/4) moist; massive; hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; strongly effervescent; few fine seams and threads of calcium carbonate; moderately alkaline; clear wavy boundary.

Bk3—47 to 60 inches; light yellowish brown (10YR 6/4) silty clay loam, yellowish brown (10YR 5/4) moist; massive; hard, very friable, moderately sticky and slightly plastic; strongly effervescent; moderately alkaline.

Range in Characteristics**A horizon:***Hue:* 7.5YR or 10YR*Value:* 4 to 6 dry, 3 to 5 moist*Chroma:* 2 to 4**Bt horizon:***Hue:* 7.5YR or 5YR*Value:* 3 to 6 dry, 4 to 5 moist*Chroma:* 3 to 5**Bk horizon:***Hue:* 7.5YR or 10YR*Value:* 5 or 6 dry, 4 or 5 moist*Chroma:* 3 or 4*Texture, fine earth fraction:* loam, silt loam, or silty clay loam

Encicado Series

Map unit: 66

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: swales

Parent material: stream alluvium derived from shale

Elevation: 7,000 to 8,000 feet (2,134 to 2,438 meters)

Slope: 0 to 3 percent

Climatic data:

Mean annual precipitation: 18 to 25 inches (457 to 635 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Fine, mixed Pachic Udic Argiborolls

Typical Pedon

Encicado silty clay loam, in an area of map unit 66, Encicado silty clay loam, 0 to 3 percent slopes; about 0.5 mile directly south of Chama, New Mexico. New Mexico state plane coordinates 2,131,842 feet north and 403,947 feet east. NAD 83, UTM 13 — 40 80 327 N; 03 59 248 E.

A—0 to 17 inches; dark gray (10YR 4/1) silty clay loam, black (10YR 2/1) moist; strong coarse granular structure; hard, firm, moderately sticky and moderately plastic; many fine and medium and few coarse roots; common fine interstitial pores; slightly alkaline; clear smooth boundary.

Bt1—17 to 35 inches; dark grayish brown (2.5Y 4/2) silty clay loam, very dark grayish brown (2.5Y 3/2) moist; strong coarse prismatic structure parting to strong coarse subangular blocky; hard, firm, moderately sticky and moderately plastic; common fine roots; common fine tubular pores; common stress cutans; few thin clay films lining pores; slightly alkaline; clear smooth boundary.

2Bt2—35 to 60 inches; olive brown (2.5Y 4/4) extremely cobbly clay loam, dark grayish brown (2.5Y 4/2) moist; weak fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few fine roots; few thick clay films on faces of peds; 35 percent gravel and 40 percent cobbles; slightly alkaline.

Range in Characteristics

A horizon:

Value: 3 or 4 moist, 2 or 3 dry

Bt horizon:

Hue: 10YR or 2.5Y

Value: 3 or 4 dry, 2 to 4 moist

Chroma: 2 to 6

Texture, fine earth fraction: silty clay loam, clay loam, or clay

2Bt horizon:

Hue: 2.5Y or 10YR

Value: 3 or 4 dry, 2 to 4 moist

Chroma: 2 to 6

Texture, fine earth fraction: clay loam or sandy clay loam

Rock fragments: 25 to 35 percent gravel and 30 to 40 percent cobbles

Eody Series

Map unit: 137

Depth class: very deep

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: escarpments and mountain slopes

Parent material: colluvium derived from mixed sources

Elevation: 8,100 to 9,700 feet (2,469 to 2,957 meters)

Slope: 50 to 80 percent

Climatic data:

Mean annual precipitation: 25 to 28 inches (635 to 711 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Taxonomic class: Fine, mixed, nonacid Typic Cryorthents

Typical Pedon

Eody loam, in an area of map unit 137, Yata-Eody loams, 50 to 80 percent slopes; about 4.5 miles north and 1 mile west of Chama, New Mexico; New Mexico state plane coordinates 2,171,610 feet north and 402,970 feet east. NAD 83, UTM 13 — 40 92 450 N; 03 59 110 E.

- A—0 to 4 inches; dark grayish brown (10YR 4/2) loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; slightly hard, friable, moderately sticky and moderately plastic; common medium, many fine and very fine roots; few fine interstitial and vesicular pores; neutral; clear smooth boundary.
- C1—4 to 11 inches; light brownish gray (10YR 6/2) clay, dark grayish brown (10YR 4/2) moist; massive; hard, firm, very sticky and very plastic; common medium, fine and very fine roots; few fine tubular pores; neutral; clear wavy boundary.
- C2—11 to 27 inches; light reddish brown (10YR 6/3) silty clay loam, dark yellowish brown (10YR 4/4) moist; massive; very hard, firm, very sticky and very plastic; common medium, fine and very fine roots; few fine tubular pores; neutral; gradual smooth boundary.
- C3—27 to 60 inches; brown (10YR 5/3) silty clay, grayish brown (10YR 5/2) moist; massive; very hard, firm, very sticky and very plastic; few very fine and fine roots; few very fine and fine tubular pores; slightly acid.

Range in Characteristics

A horizon:

Hue: 2.5Y or 10YR

Value: 3 or 4 dry, 2 or 3 moist

Chroma: 1 or 2

C horizon:

Hue: 2.5Y or 10YR

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 to 4

Texture, fine earth fraction: silty clay loam, silty clay, or clay

Espiritu Series

Map unit: 140

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Landform: south aspects of escarpments

Parent material: slope alluvium and colluvium derived from igneous material

Elevation: 6,000 to 7,000 feet (1,829 to 2,134 meters)

Slope: 35 to 60 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Loamy-skeletal, mixed, mesic Aridic Haplustalfs

Typical Pedon

Espiritu very cobbly loam, in an area of map unit 140, Espiritu-Wauquie association, 35 to 60 percent slopes; about 7 miles south and 1 mile east of Chili, New Mexico; New Mexico state plane coordinate 1,821,000 feet north and 535,200 feet east. NAD 83, UTM 13 — 40 08 881 N; 03 82 140 E. NAD 83, UTM 13 — 39 85 081 N; 03 98 018 E.

A—0 to 5 inches; brown (7.5YR 5/2) very cobbly loam, brown (7.5YR 4/2) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many fine and very fine roots; common very fine interstitial pores; 25 percent gravel and 25 percent cobbles; slightly alkaline; clear smooth boundary.

Bt—5 to 19 inches; brown (7.5YR 4/4) very cobbly clay loam, dark brown (7.5YR 3/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few medium, common fine and very fine roots; common very fine tubular pores; common thin clay films on ped faces and lining pores; 30 percent gravel and 20 percent cobbles; slightly alkaline; clear wavy boundary.

Bk1—19 to 40 inches; light brown (7.5YR 6/4) very cobbly sandy clay loam, brown (7.5YR 5/4) moist; massive; hard, firm, slightly sticky and slightly plastic; few medium, common fine and few very fine roots; common very fine tubular pores; slightly effervescent; few thin masses of calcium carbonate on undersides of rock fragments; 25 percent gravel and 25 percent cobbles; slightly alkaline; clear smooth boundary.

Bk2—40 to 60 inches; light brown (7.5YR 6/4) very cobbly sandy loam, brown (7.5YR 5/4) moist; massive; hard, firm, nonsticky and nonplastic; few medium and fine roots; few very fine tubular pores; slightly effervescent; few thin masses of calcium carbonate on undersides of rock fragments; 25 percent gravel and 25 percent cobbles; slightly alkaline.

Range in Characteristics

A horizon:

Rock fragments: 20 to 30 percent gravel and 20 to 30 percent cobbles

Bt horizon:

Rock fragments: 30 to 40 percent gravel and 5 to 20 percent cobbles

Bk horizons:

Rock fragments: 20 to 30 percent gravel and 20 to 30 percent cobbles

Ess Series

Map units: 208, 215

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Landform: mountain slopes

Parent material: slope alluvium and colluvium derived from igneous material

Elevation: 9,500 to 11,400 feet (2,896 to 3,475 meters)

Slope: 2 to 15 percent

Climatic data:

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Taxonomic class: Loamy-skeletal, mixed Argic Cryoborolls

Typical Pedon

Ess gravelly loam, in an area of map unit 208, Ess-Croftshaw complex, 3 to 20 percent slopes; about 12.6 miles east and 3.4 miles south of Chama, New Mexico; New Mexico state plane coordinates 2,129,860 feet north and 468,790 feet east. NAD 83, UTM 13 — 40 79 464 N; 03 79 001 E.

A—0 to 6 inches; very dark grayish brown (10YR 3/2) gravelly loam, very dark brown (10YR 2/2) moist; weak fine granular structure; soft, friable, slightly sticky and slightly plastic; many very fine and fine roots; commonly fine and very fine interstitial pores; 20 percent gravel and 5 percent cobbles; slightly acid; clear smooth boundary.

BA—6 to 13 inches; very dark grayish brown (10YR 3/2) gravelly loam, very dark brown (10YR 2/2) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine, many fine and few medium roots; common fine vesicular pores; few thin clay films on faces of peds; 15 percent gravel; slightly acid; abrupt wavy boundary.

Bt1—13 to 31 inches; yellowish brown (10YR 5/6) very gravelly sandy clay loam, dark yellowish brown (10YR 4/6) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few fine and medium roots; few fine vesicular pores; common moderately thick clay films on faces of peds; 45 percent gravel; slightly acid; clear smooth boundary.

Bt2—31 to 40 inches; yellowish brown (10YR 5/6) very cobbly sandy clay loam, dark yellowish brown (10YR 4/6) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few fine and medium roots; few fine vesicular pores; common moderately thick clay films on faces of peds; 25 percent gravel and 25 percent cobbles; slightly acid; clear smooth boundary.

C—40 to 60 inches; brownish yellow (10YR 6/6) very gravelly sandy clay loam, yellowish brown (10YR 5/6) moist; massive; hard, firm, slightly sticky and slightly plastic; few fine and medium roots; few fine vesicular pores; 35 percent gravel and 15 percent cobbles; slightly acid.

Range in Characteristics

A horizon:

Value: 3 or 4 dry, and 2 or 3 moist

Chroma: 2 or 3

Rock fragments: 10 to 25 percent gravel and 5 to 10 percent cobbles

Bt horizon:

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 3 to 6

Rock fragments: 25 to 60 percent gravel and 0 to 25 percent cobbles

Florita Series

Map units: 9, 241

Depth class: very deep

Drainage class: well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Landform: hills

Parent material: eolian material and slope alluvium derived from sandstone

Elevation: 5,700 to 6,900 feet (1,737 to 2,103 meters)

Slope: 2 to 45 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Coarse-loamy, mixed, nonacid, mesic Ustic Torriorthents

Typical Pedon

Florita sandy loam, in an area of map unit 9, Pinavetes-Florita complex, 2 to 10 percent slopes; about 3.1 miles south of Counselor Trading Post in Escrito Canyon; 2,400 feet south and 600 feet west of the NE corner of section 3, T. 23 N, R.6 W.

- A—0 to 2 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 5/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; common very fine and few fine tubular pores; moderately alkaline; clear smooth boundary.
- C1—2 to 6 inches; brown (10YR 5/3) sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few fine and medium roots; common fine and few medium tubular pores; moderately alkaline; clear smooth boundary.
- C2—6 to 24 inches; light yellowish brown (10YR 6/4) coarse sandy loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; few fine tubular pores; moderately alkaline; clear smooth boundary.
- C3—24 to 38 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 5/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine roots; few fine tubular pores; slightly effervescent; strongly alkaline; clear smooth boundary.
- C4—38 to 60 inches; yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; few fine tubular pores; slightly effervescent; strongly alkaline.

Range in Characteristics

A horizon:

Value: 4 or 5 moist

Chroma: 3 or 4

Texture, fine earth fraction: sandy loam or fine sandy loam

Rock fragments: 0 to 30 percent gravel C horizon:

Hue: 7.5YR or 10YR

Value: 5 to 7 dry, 4 to 6 moist

Chroma: 2 or 4

Texture, fine earth fraction: sandy loam and coarse sandy loam. This horizon is often stratified with lenses of loam or loamy fine sand.

Fruitland Series

Map units: 11, 39, 151

Depth class: very deep

Drainage class: well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Landform: alluvial fans and stream terraces

Parent material: fan and stream alluvium derived from sandstone

Elevation: 5,500 to 6,600 feet (1,676 to 2,012 meters)

Slope: 0 to 5 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 50 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Coarse-loamy, mixed, calcareous, mesic Typic Torriorthents

Typical Pedon

Fruitland sandy loam, in an area of map unit 151, Razito-Fruitland complex, 1 to 5 percent slopes; about 0.6 miles east of Alcalde, New Mexico; New Mexico state plane coordinates 1,850,400 feet north and 560,500 feet east. NAD 83, UTM 13 — 40 08 881 N; 03 82 140 E.

A—0 to 3 inches; yellowish brown (10YR 5/4) sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, nonsticky and slightly plastic; few very fine and fine roots; few very fine interstitial pores; 5 percent gravel; slightly effervescent; moderately alkaline; clear smooth boundary.

C1—3 to 50 inches; light yellowish brown (10YR 6/4) sandy loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; few very fine tubular pores; 5 percent gravel; strongly effervescent; moderately alkaline; gradual smooth boundary.

C2—50 to 60 inches; light yellowish brown (10YR 6/4) loamy fine sand, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 5 percent gravel; strongly effervescent; moderately alkaline.

Range in Characteristics

C horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

Texture, fine earth fraction: sandy loam or fine sandy loam. Below 40 inches strata of loamy fine sand, loamy sand, and gravelly sandy loam may occur.

Note: Rock fragments in the profile range from 0 to 10 percent gravel.

Gilco Series

Map units: 22, 23

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Landform: alluvial fans

Parent material: fan alluvium derived from mixed sources

Elevation: 5,500 to 6,100 feet (1,676 to 1,859 meters)

Slope: 0 to 3 percent

*Climatic data:**Mean annual precipitation:* 8 to 10 inches (203 to 254 millimeters)*Mean annual air temperature:* 50 to 52 degrees F. (10.0 to 11.1 degrees C.)*Frost-free period:* 140 to 160 days*Taxonomic class:* Coarse-loamy, mixed, calcareous, mesic Typic Torrifluvents**Typical Pedon**

Gilco sandy clay loam, in an area of map unit 23, Gilco sandy clay loam, 0 to 3 percent slopes; 0.2 mile south of Rancho De Abiquiu, New Mexico; New Mexico state plane coordinates 1,898,400 feet north and 485,600 feet east. NAD 83, UTM 13 — 40 08 862 N; 03 83 207 E.

Ap—0 to 14 inches; light brown (7.5YR 6/4) sandy clay loam, brown (7.5YR 4/4) moist; moderate medium granular structure; hard, friable, moderately sticky and moderately plastic; many very fine and fine roots; common very fine irregular pores; strongly effervescent; moderately alkaline; abrupt wavy boundary.

C1—14 to 18 inches; brown (7.5YR 5/4) sandy loam, brown (7.5YR 4/2) moist; massive; hard, friable, moderately sticky and moderately plastic; many fine and common medium roots; many very fine irregular pores; strongly effervescent; slightly alkaline; abrupt wavy boundary.

C2—18 to 25 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few fine and common medium roots; few fine irregular pores; slightly effervescent; slightly alkaline; clear smooth boundary.

C3—25 to 60 inches; light gray (10YR 7/2) sandy loam with few strata of loamy sand, grayish brown (10YR 5/2) moist; massive; soft, very friable, slightly sticky and slightly plastic; few very fine and medium roots; few fine irregular pores; slightly effervescent; slightly alkaline.

Range in Characteristics**Ap horizon:***Hue:* 10YR or 7.5YR*Value:* 5 or 6 dry and 4 or 5 moist*Texture, fine earth fraction:* sandy clay loam or loamy sand**C horizon:***Hue:* 10YR or 7.5YR*Value:* 5 to 7 dry, 4 or 5 moist*Chroma:* 2 to 4*Texture, fine earth fraction:* stratified sandy loam, fine sandy loam, or loamy sand**Gobernador Series***Map unit:* 31*Depth class:* very deep*Drainage class:* well drained*Slowest permeability:* .06 to 0.2 in./hr. (slow)*Landform:* stream terraces*Parent material:* stream alluvium derived from sandstone and shale*Elevation:* 6,000 to 6,800 feet (1,829 to 2,073 meters)*Slope:* 0 to 2 percent

*Climatic data:**Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 45 to 49 degrees F. (7.2 to 9.4 degrees C.)*Frost-free period:* 100 to 130 days*Taxonomic class:* Fine, montmorillonitic, calcareous, mesic Vertic Ustorthents**Typical Pedon**

Gobernador silty clay loam, in an area of map unit 31, Gobernador-Orlie association, 0 to 8 percent slopes; east of Navajo City in Gobernador Canyon, New Mexico; 1,620 feet west and 1,600 feet north of the SE corner of Sec. 27, T. 29 N, R. 6W.

- A—0 to 2 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 5/3) moist; weak thin platy structure; hard, friable, moderately sticky and moderately plastic; cracks up to 2 inches wide; few very fine roots; few very fine and fine continuous pores; slightly effervescent; strongly alkaline; clear smooth boundary.
- C—2 to 60 inches; brown (10YR 5/3) clay, dark grayish brown (10YR 4/2) moist; massive; very hard, very firm, moderately sticky and moderately plastic; cracks up to 2 inches wide and 22 inches deep; few very fine roots; few very fine vesicular pores; slightly effervescent; very strongly alkaline.

Range in Characteristics*Reaction:* moderately alkaline to very strongly alkaline*Sodicity:* SAR of 13 to 45*A horizon:**Hue:* 10YR or 7.5YR*Value:* 5 to 6 dry, 4 or 5 moist*Chroma:* 2 or 3*Texture, fine earth fraction:* clay loam or silty clay loam*C horizon:**Hue:* 7.5YR or 10YR*Value:* 5 or 6 dry, 4 or 5 moist*Chroma:* 2 or 3*Texture, fine earth fraction:* clay or silty clay*Salinity:* EC is greater than 8 mmhos/cm

Note: Thin strata and lenses of clay loam or silty clay loam can occur below 40 inches.

Gromes Series*Map units:* 206, 207*Depth class:* very deep*Drainage class:* well drained*Slowest permeability:* 0.2 to 0.6 in./hr. (moderately slow)*Landform:* mountain slopes*Parent material:* slope alluvium and colluvium derived from igneous material*Elevation:* 9,700 to 11,000 feet (2,957 to 3,353 meters)*Slope:* 15 to 40 percent

*Climatic data:**Mean annual precipitation:* 28 to 35 inches (711 to 889 millimeters)*Mean annual air temperature:* 35 to 40 degrees F. (1.7 to 4.4 degrees C.)*Frost-free period:* 50 to 70 days*Taxonomic class:* Loamy-skeletal, mixed Typic Cryochrepts**Typical Pedon**

Gromes cobbly loam, in an area of map unit 207, Gromes-Rock outcrop complex, 15 to 40 percent slopes; about 15.8 miles east and 2.6 miles south of Chama, New Mexico; New Mexico state plane coordinates 2,122,445 feet north 486,720 feet east. NAD 83, UTM 13 — 40 77 133 N; 03 84 435 E.

A—0 to 11 inches; grayish brown (10YR 6/2) cobbly loam, very dark grayish brown (10YR 4/2) moist; strong fine granular structure; slightly hard, friable, nonsticky and nonplastic; few medium, many fine and very fine roots; few very fine interstitial pores; 5 percent gravel, 10 percent cobbles and 5 percent stones; slightly acid; abrupt wavy boundary.

Bw—11 to 25 inches; light yellowish brown (10YR 6/4) very cobbly loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; hard, firm, slightly sticky and slightly plastic; few medium common fine and very fine roots; few very fine tubular pores; 15 percent gravel, 20 percent cobbles and 5 percent stones; slightly acid; clear smooth boundary.

C—25 to 60 inches; light yellowish brown (10YR 6/4) very cobbly loam, yellowish brown (10YR 5/4) moist; massive; hard, firm, slightly sticky and nonplastic; few fine and common very fine roots; few fine tubular pores; 20 percent gravel, 25 percent cobbles and 5 percent stones; slightly acid.

Range in Characteristics**A horizon:***Texture, fine earth fraction:* loam*Rock fragments:* 5 to 20 percent gravel, 0 to 15 percent cobbles and 0 to 5 percent stones**Bw horizon:***Value:* 5 or 6 dry, and 4 or 3 moist*Chroma:* 3 or 4*Texture, fine earth fraction:* clay loam or loam*Rock fragments:* 15 to 25 percent gravel, 20 to 25 percent cobbles and 0 to 5 percent stones**C horizon:***Chroma:* 3 or 4*Texture, fine earth fraction:* clay or loam*Rock fragments:* 15 to 25 percent gravel, 20 to 25 percent cobbles and 0 to 10 percent stones**Hagerman Series***Map unit:* 248*Depth class:* moderately deep*Drainage class:* well drained*Slowest permeability:* 0.6 to 2.0 in./hr. (moderate)*Landform:* fan remnants*Parent material:* slope alluvium derived from sandstone and shale*Elevation:* 6,000 to 6,900 feet (1,829 to 2,103 meters)

Slope: 2 to 7 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Fine-loamy, mixed, mesic Ustollic Haplargids

Typical Pedon

Hagerman fine sandy loam, in an area of map unit 248, Hagerman-Silver fine sandy loams, 2 to 7 percent slopes; about 1.4 miles south and 3 miles east of the Ghost Ranch Headquarters; New Mexico state plane coordinates 1,932,800 feet north and 450,200 feet east. NAD 83, UTM 13 — 40 19 484 N; 03 72 555 E.

A—0 to 3 inches; brown (7.5YR 5/4) fine sandy loam; brown (7.5YR 4/4) moist; weak fine granular structure; soft, friable, moderately sticky and moderately plastic; common very fine and many fine roots; few very fine irregular pores; slightly alkaline; abrupt wavy boundary.

Bt—3 to 11 inches; brown (7.5YR 5/4) sandy clay loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, firm, moderately sticky and moderately plastic; common very fine roots; common very fine tubular pores; few clay films bridging sand grains; strongly effervescent; moderately alkaline; clear smooth boundary.

Btk1—11 to 20 inches; light brown (7.5YR 6/4) clay loam, brown (7.5YR 4/4) moist; strong medium subangular blocky structure; hard, very firm, very sticky and moderately plastic; few fine roots; common very fine and fine tubular pores; common moderately thick clay films on faces of peds and in pores; strongly effervescent; few medium rounded masses of calcium carbonate; strongly alkaline; clear smooth boundary.

Btk2—20 to 24 inches; light brown (7.5YR 6/4) clay loam, brown (7.5YR 5/4) moist; moderate medium subangular blocky structure; hard, very firm, very sticky and moderately plastic; few fine roots; common very fine and fine tubular pores; few moderately thick clay films on faces of peds and in pores; strongly effervescent; few fine and medium rounded masses of calcium carbonate; strongly alkaline; abrupt wavy boundary.

2R—24 inches; sandstone bedrock.

Range in Characteristics

A horizon:

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 3 or 4

Bt horizon:

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 3 or 4

Btk horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 4 or 5

Depth to bedrock: 20 to 40 inches

Hesperus Series

Map unit: 118

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: stream terraces

Parent material: stream alluvium derived from mixed sources

Elevation: 8,000 to 8,700 feet (2,438 to 2,652 meters)

Slope: 1 to 5 percent

Climatic data:

Mean annual precipitation: 18 to 25 inches (457 to 635 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Fine-loamy, mixed Pachic Argiborolls

Typical Pedon

Hesperus loam, in an area of map unit 118, Hesperus-Pastorius-Chamita complex, 0 to 5 percent slopes; 3 miles north and 2.5 miles west of Chama, New Mexico; New Mexico state plane coordinates 2,167,860 feet north and 388,380 feet east. NAD 83, UTM 13 — 40 91 366 N; 03 54 648 E.

A—0 to 4 inches; brown (10YR 5/3) loam, very dark grayish brown (10YR 3/2) moist; moderate medium granular structure; soft, very friable, slightly sticky and moderately plastic; common very fine and fine roots; few very fine vesicular pores; neutral; clear smooth boundary.

BA—4 to 17 inches; brown (10YR 4/3) loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; common very fine, fine and few medium roots; few very fine and common fine tubular pores; slightly acid; gradual smooth boundary.

Bt1—17 to 26 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few fine and medium roots; few very fine and common fine tubular pores; few thin clay films on faces of peds; slightly acid; clear smooth boundary.

Bt2—26 to 38 inches; yellowish brown (10YR 5/4) loam, dark yellowish brown (10YR 4/4) moist; weak medium subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; few fine and medium roots; few very fine, fine and medium tubular pores; few thin clay films on faces of peds; slightly acid; clear smooth boundary.

C—38 to 60 inches; light yellowish brown (10YR 6/4) loam, yellowish brown (10YR 5/4) moist; massive; very hard, firm, moderately sticky and moderately plastic; few fine and medium roots; few fine tubular pores; neutral.

Range in Characteristics

A horizon:

Value: 4 or 5 dry, 2 or 3 moist

Chroma: 2 or 3

Bt horizon:

Value: 3 to 5 dry, 2 to 4 moist

Chroma: 2 to 4

C horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 to 4

Hogg Series

Map units: 125, 130

Depth class: very deep

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: cuestas and hills

Parent material: colluvium derived from sandstone and shale

Elevation: 7,400 to 8,200 feet (2,256 to 2,499 meters)

Slope: 2 to 25 percent

Climatic data:

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Fine, mixed Mollic Eutroboralfs

Typical Pedon

Hogg loam, in an area of map unit 125, Hogg-Mara loams, 2 to 12 percent slopes; about 5 miles west and 2.5 miles south of Chama on Quarrels Ranch, New Mexico; New Mexico state plane coordinates 2,125,210 feet north and 375,210 feet east. NAD 83, UTM 13 — 40 78 420 N; 03 50 464 E.

A—0 to 3 inches; dark grayish brown (10YR 4/2) loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable and slightly stick and slightly plastic; many very fine and fine roots; few very fine irregular vesicular pores; neutral; clear smooth boundary.

Bt1—3 to 6 inches; dark grayish brown (10YR 4/2) clay loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine and few medium roots; few fine tubular pores; few thin clay films on faces of peds; neutral; clear smooth boundary.

Bt2—6 to 9 inches; brown (10YR 4/3) clay loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine and fine roots; few fine tubular pores; few thin clay films on faces of peds; neutral; clear wavy boundary.

Bt3—9 to 15 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/4) moist; strong fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine, fine and few medium roots; common fine and few medium tubular pores; common thin clay films on faces of peds; slightly alkaline; clear wavy boundary.

Bt4—15 to 29 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/4) moist; strong coarse prismatic structure; very hard, very firm, moderately sticky and moderately plastic; common very fine and fine and few medium roots; common fine tubular pores; common thick clay films on faces of peds; slightly effervescent; neutral; abrupt irregular boundary.

Btk1—29 to 44 inches; yellowish brown (10YR 5/4) clay, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few fine roots; few fine tubular continuous pores; common thin clay films on faces of peds; strongly effervescent; few fine masses of calcium carbonate; slightly alkaline; clear wavy boundary.

Btk2—44 to 60 inches; yellowish brown (10YR 5/4) clay, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few fine roots; few fine tubular pores; common thin clay films on faces of peds; 10 percent cobbles; strongly effervescent; few fine masses of calcium carbonate; moderately alkaline.

Range in Characteristics

A horizon:

Value: 4 or 5 dry, 2 or 3 moist

Chroma: 2 or 3

Rock fragments: 0 to 10 percent gravel

Bt horizon:

Hue: 7.5YR or 10YR

Value: 2 to 5 dry, 2 to 4 moist

Chroma: 3 or 4

Texture, fine earth fraction: clay loam or clay

Rock fragments: 0 to 15 percent gravel

Btk horizon:

Hue: 7.5YR or 10YR

Value: 6 to 8 dry, 4 to 7 moist

Chroma: 2 to 6

Texture, fine earth fraction: clay loam or clay

Rock fragments: 10 to 35 percent gravel and 0 to 10 percent cobbles

Calcium carbonate equivalent: 15 to 50 percent

Jocity Series

Map units: 22, 24

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: alluvial fans

Parent material: fan alluvium derived from mixed sources

Elevation: 5,500 to 6,100 feet (1,676 to 1,859 meters)

Slope: 0 to 3 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 50 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Fine-loamy, mixed, calcareous, mesic Typic Torrifluvents

Typical Pedon

Jocity sandy clay loam, in an area of map unit 24; Jocity sandy clay loam, 0 to 1 percent slopes about 0.8 mile due south of the intersection of Highways 84 and 64; 2,600 feet south and 1,200 feet east of the northwest corner, section 11, T.20N., R.8E.

Ap—0 to 14 inches; brown (10YR 5/3) sandy clay loam, brown (10YR 4/3) moist; strong medium granular structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine, fine and medium roots; few very fine, fine and medium tubular pores; slightly effervescent; moderately alkaline; abrupt smooth boundary.

- C1—14 to 33 inches; pale brown (10YR 6/3) stratified fine sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; common fine, few medium and coarse roots; common very fine, few fine tubular pores; slightly effervescent; moderately alkaline; abrupt smooth boundary.
- C2—33 to 60 inches; pale brown (10YR 6/3) stratified sandy clay loam, brown (10YR 4/3) moist; massive; hard, very friable, moderately sticky and moderately plastic; common very fine and fine roots; few very fine tubular pores; 5 percent gravel; slightly effervescent; moderately alkaline.

Range in Characteristics

Ap horizon:

Texture, fine earth fraction: sandy clay loam or sandy loam

C horizon:

Texture, fine earth fraction: stratified sandy loam, fine sandy loam, sandy clay loam, and clay loam

Katlon Series

Map unit: 200

Depth class: very deep

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: mountain slopes

Parent material: colluvium derived from mixed sources

Elevation: 8,500 to 9,500 feet (2,652 to 2,896 meters)

Slope: 25 to 45 percent

Climatic data:

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Taxonomic class: Fine, mixed Mollic Cryoboralfs

Typical Pedon

Katlon silt loam, in an area of map unit 200, Katlon silt loam, 25 to 45 percent slopes; about 7 miles east of Tierra Amarilla at the upper end of the ski area; New Mexico state plane coordinates 2,073,200 feet north and 435,200 feet east. NAD 83, UTM 13 — 40 62 331 N; 03 68 539 E.

Oi—0 to 4 inches; pine needles

A1—4 to 10 inches; very dark grayish brown (10YR 3/2) silt loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and medium roots; few fine tubular pores; neutral; gradual smooth boundary.

A2—10 to 18 inches; very dark gray (10YR 3/1) silt loam, very dark brown (10YR 2/2) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine and medium roots; few fine tubular pores; neutral; clear wavy boundary.

E—18 to 31 inches; pale brown (10YR 6/3) silt loam, brown (10YR 4/3) moist; weak medium prismatic structure parting to moderate medium subangular blocky; slightly hard, friable, moderately sticky and moderately plastic; common fine roots; few fine tubular pores; common thin silt coats on faces of peds; slightly acid; clear smooth boundary.

Bt1—31 to 38 inches; light yellowish brown (10YR 6/4) silty clay loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium prismatic structure parting to moderate medium subangular blocky; hard, firm, very sticky and very plastic; common fine and very fine flat roots; few very fine vesicular pores; common thick clay films on faces of peds; strongly acid; gradual smooth boundary.

Bt2—38 to 80 inches; yellowish brown (10YR 5/4) silty clay loam, dark yellowish brown (10YR 4/4) moist, with few fine distinct strong brown (7.5YR 4/6) mottles; moderate coarse prismatic structure parting to medium prismatic; very hard, firm, very sticky and very plastic; few very fine and fine roots; few very fine vesicular pores; common very thick clay films on faces of peds; very strongly acid.

Range in Characteristics

A horizon:

Value: 2 or 3 dry and moist

Chroma: 1 or 2

E horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

Rock fragments: 0 to 5 percent cobbles and 0 to 5 percent gravel

Bt horizon:

Hue: 10YR or 7.5YR

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

Texture, fine earth fraction: silty clay loam or silty clay

Rock fragments: 0 to 5 percent cobbles and 0 to 5 percent gravel

Kunz Series

Map unit: 50

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: hills

Parent material: slope alluvium derived from sandstone and shale

Elevation: 7,300 to 7,900 feet (2,225 to 2,408 meters)

Slope: 5 to 15 percent

Climatic data:

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Fine-loamy, mixed Mollic Eutroboralfs

Typical Pedon

Kunz sandy loam, in an area of map unit 50, Stout-Kunz sandy loams, 5 to 15 percent slopes; about 2.5 miles south and 1.6 miles east of Lindrith, New Mexico; New Mexico state plane coordinates 1,917,000 feet north and 275,000 feet east. NAD 83, UTM 13 — 40 15 359 N; 03 19 098 E.

A—0 to 3 inches; brown (7.5YR 4/4) sandy loam, dark brown (7.5YR 3/2) moist; moderate fine granular structure; soft, very friable, slightly sticky and nonplastic; few very fine and fine roots; common very fine vesicular pores; neutral, abrupt smooth boundary.

- Bt1—3 to 17 inches; brown (7.5YR 4/4) sandy clay loam, dark brown (7.5YR 3/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine, fine and medium roots; common very fine pores; common thin clay films on faces of peds; neutral; clear smooth boundary.
- Bt2—17 to 38 inches; brown (7.5YR 5/4) sandy clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few very fine tubular pores; few thin clay films on faces of peds; slightly effervescent; slightly alkaline; clear smooth boundary.
- C—38 to 60 inches; brown (7.5YR 4/4) sandy clay loam, brown (7.5YR 4/4) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few very fine tubular pores; slightly effervescent; slightly alkaline.

Range in Characteristics

Calcium carbonate equivalent: Bt2 and C horizons range from 3 to 7 percent
Rock fragments: 0 to 10 percent channers

Laventana Series

Map unit: 711

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Landform: mountain slopes

Parent material: slope alluvium derived from tuff

Elevation: 8,400 to 9,100 feet (2,560 to 2,774 meters)

Slope: 15 to 40 percent

Climatic data:

Mean annual precipitation: 25 to 28 inches (635 to 711 millimeters)

Mean annual air temperature: 40 to 44 degrees F. (4.4 to 6.7 degrees C.)

Frost-free period: 70 to 90 days

Taxonomic class: Loamy-skeletal, mixed Mollic Eutroboralfs

Typical Pedon

Laventana cobbly loam, in an area of map unit 711, Laventana cobbly loam, 15 to 40 percent slopes; about 20 miles west of Santa Clara Pueblo, New Mexico; New Mexico state plane coordinates 1,813,100 feet North and 456,800 feet East. NAD 83, UTM 13 — 39 82 980 N; 03 74 096 E.

- A1—0 to 5 inches; grayish brown (10YR 5/2) cobbly loam, very dark grayish brown (10YR 3/2) moist; moderate medium granular structure; soft, very friable, moderately sticky and moderately plastic; common very fine and medium roots; few very fine interstitial pores; 5 percent gravel and 10 percent cobbles; neutral; clear smooth boundary.
- A2—5 to 11 inches; light brownish gray (10YR 6/2) cobbly fine sandy loam, dark brown (10YR 3/3) moist; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; common fine medium and few coarse roots; few very fine and common fine tubular pores; 10 percent gravel and 10 percent cobbles; neutral; clear smooth boundary.

- E—11 to 23 inches; light gray (10YR 7/2) cobbly sandy clay loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine roots; few very fine and common fine tubular pores; 5 percent gravel and 10 percent cobbles; neutral; gradual smooth boundary.
- Bt1—23 to 44 inches; reddish yellow (7.5YR 6/6) extremely stony sandy clay loam, strong brown (7.5YR 4/6) moist; moderate medium and coarse subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; few very fine, fine and medium roots; common fine tubular pores; common moderately thick clay films on faces of peds; 15 percent gravel, 25 percent cobbles, 30 percent stones; neutral; gradual wavy boundary.
- Bt2—44 to 60 inches, pink (7.5YR 7/4) very stony sandy clay loam, brown (7.5YR 4/4) moist; weak moderate and coarse subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few fine tubular pores; few moderately thick clay films on faces of peds and oriented clay bridging sand grains; 20 percent cobbles and 35 percent stones; neutral.

Range in Characteristics

A and E horizons:

Rock fragments: 5 to 15 percent gravel and 10 to 15 percent cobbles

Bt horizon:

Rock fragments: 0 to 15 percent gravel, 20 to 30 percent cobbles, and 30 to 35 percent stones

Lindrith Series

Map unit: 69

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: alluvial fans

Parent material: fan alluvium derived from sandstone and shale

Elevation: 6,600 to 7,300 feet (2,012 to 2,225 meters)

Slope: 2 to 7 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Coarse-loamy, mixed, calcareous, mesic Typic Ustorthents

Typical Pedon

Lindrith silty clay loam, in an area of map unit 69, Lindrith-Royosa complex, 2 to 7 percent slopes; about 2.5 miles north and 8 miles west of Lindrith, New Mexico; 600 feet west and 1,400 feet south of the northeast corner of Sec.7, T.24N., R.3W.

- A—0 to 3 inches; brown (10YR 5/3) silty clay loam, brown (10YR 4/3) moist; weak fine granular structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine roots; common fine tubular pores; slightly effervescent; slightly alkaline; clear smooth boundary.
- C1—3 to 11 inches; brown (10YR 5/3) silty clay loam, brown (10YR 4/3) moist; massive; hard, friable, moderately sticky and moderately plastic; common very fine and few medium roots; common fine tubular pores; slightly effervescent; slightly alkaline, clear smooth boundary.

- C2—11 to 25 inches; yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine and few fine roots; few fine and very fine tubular pores; slightly effervescent; neutral; gradual smooth boundary.
- C3—25 to 37 inches; yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and medium roots; few fine tubular pores; 3 percent gravel; slightly effervescent; neutral; gradual smooth boundary.
- C4—37 to 50 inches; yellowish brown (10YR 5/6) sandy loam, dark yellowish brown (10YR 4/6) moist; massive; hard, firm, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; slightly effervescent; neutral; gradual smooth boundary.
- C5—50 to 67 inches; yellowish brown (10YR 5/6) loamy sand, dark yellowish brown (10YR 4/6) moist; massive; hard, firm, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; strongly effervescent; slightly alkaline.

Range in Characteristics

Rock fragments: 0 to 10 percent gravel

A horizon (an AC horizon occurs in some pedons):

Hue: 10YR or 2.5Y

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 to 6

C horizon:

Hue: 10YR or 7.5YR

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 to 6

Texture, fine earth fraction: Often stratified, but averages 10 to 18 percent clay and 40 to 75 percent sand

Note: Individual pedons may contain sandstone bedrock below 50 inches.

Lobat Series

Map unit: 201

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: mountain slopes

Parent material: colluvium derived from igneous material

Elevation: 8,200 to 9,800 feet (2,499 to 2,987 meters)

Slope: 15 to 60 percent

Climatic data:

Mean annual precipitation: 25 to 28 inches (635 to 711 millimeters)

Mean annual air temperature: 40 to 44 degrees F. (4.4 to 6.7 degrees C.)

Frost-free period: 70 to 90 days

Taxonomic class: Fine-loamy, mixed Mollic Eutroboralfs

Typical Pedon

Lobat gravelly loam, in an area of map unit 201, Lobat-Abreu gravelly loams, 15 to 60 percent slopes; about 4.8 miles east and 0.9 mile south of Chama, New Mexico; New Mexico state plane coordinates 2,142,370 feet north and 428,940 feet east.

Oi—0 to 1 inch; pine needles

A—1 inch to 7 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; moderate fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; few coarse and medium, many fine and very fine roots; common fine and very fine interstitial pores; 15 percent gravel and 5 percent cobbles; slightly acid; clear wavy boundary.

E—7 to 20 inches; pink (7.5YR 7/4) gravelly clay loam, brown (7.5YR 5/4) moist; weak fine and medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common medium, fine and very fine roots; common fine tubular pores; 15 percent gravel and 5 percent cobbles; slightly acid; gradual wavy boundary.

Bt—20 to 48 inches; light brown (7.5YR 6/4) gravelly clay loam, brown (7.5YR 4/4) moist; moderate fine and medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few fine and very fine roots; common fine tubular pores; common moderately thick clay films on faces of peds; 20 percent gravel and 10 percent cobbles; slightly acid; gradual wavy boundary.

C—48 to 60 inches; pink (7.5YR 7/4) gravelly sandy clay loam, brown (7.5YR 5/4) moist; massive; hard, firm, slightly sticky and slightly plastic; few fine roots; common fine tubular pores; 15 percent gravel and 5 percent cobbles; neutral.

Range in Characteristics

A horizon:

Value: 4 or 5 dry, 2 or 3 moist

Chroma: 2 or 3

Rock fragments: 15 to 20 percent gravel and 5 to 20 percent cobbles

E horizon:

Value: 6 or 7 dry, 4 or 5 moist

Chroma: 2 or 4

Rock fragments: 10 to 25 percent gravel and 5 to 10 percent cobbles

Bt horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 or 4

Rock fragments: 10 to 20 percent gravel and 5 to 10 percent cobbles

C horizon:

Value: 6 or 7 dry

Rock fragments: 5 to 15 percent gravel and 0 to 5 percent cobbles

Losmarios Series

Map unit: 249

Depth class: very deep

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: alluvial fans

Parent material: fan alluvium derived from sandstone and shale

Elevation: 6,100 to 6,800 feet (1,859 to 2,073 meters)

Slope: 10 to 35 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Fine, mixed, mesic Ustollic Camborthids

Typical Pedon

Losmarios extremely cobbly sandy clay loam, in an area of map unit 249, Losmarios extremely cobbly sandy clay loam, 10 to 35 percent slopes; about 1.0 mile south and 1.8 miles east of the north end of Rio Chama, Piedra Lumbre Grant boundary junction; New Mexico state plane coordinates 1,924,000 feet north and 417,200 feet east. NAD 83, UTM 13 — 40 16 933 N; 03 62 463 E.

- A—0 to 6 inches; pale brown (10YR 6/3) extremely cobbly sandy clay loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; few very fine discontinuous irregular pores; 30 percent gravel and 40 percent cobbles; strongly effervescent; slightly alkaline; abrupt smooth boundary.
- 2Bw—6 to 18 inches; light brownish gray (10YR 6/2) clay, dark yellowish brown (10YR 4/4) moist; weak coarse subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine and fine roots; common fine discontinuous irregular pores; 10 percent gravel; strongly effervescent; moderately alkaline; clear smooth boundary.
- 2Bk—18 to 29 inches; grayish brown (10YR 5/2) silty clay, dark grayish brown (10YR 4/2) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few very fine continuous tubular pores; strongly effervescent; few fine calcium carbonate accumulations; moderately alkaline; clear smooth boundary.
- 2C—29 to 60 inches; grayish brown (10YR 5/2) silty clay, dark grayish brown (10YR 4/2) moist; massive; very hard, very firm, very sticky and very plastic; few very fine roots; few very fine discontinuous irregular pores; strongly effervescent; moderately alkaline.

Range in Characteristics

A horizon:

Value: 5 or 6 dry

Chroma: 3 or 4

Rock fragments: 25 to 35 percent gravel and 40 to 50 percent cobbles

2Bw and 2Bk horizons:

Value: 5 or 6 dry

Chroma: 2 to 4

Rock fragments: 0 to 10 percent gravel

2C horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 or 3

Maia Series

Map unit: 245

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: stream terraces

Parent material: stream alluvium derived from volcanic material

Elevation: 7,100 to 7,800 feet (2,164 to 2,377 meters)

Slope: 1 to 5 percent

*Climatic data:**Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 45 to 49 degrees F. (7.2 to 9.4 degrees C.)*Frost-free period:* 100 to 130 days*Taxonomic class:* Fine-loamy, mixed, mesic Aridic Haplustalfs**Typical Pedon**

Maia loam, in an area of map unit 245, Maia-Manzano complex, 0 to 5 percent slopes; about 2.7 miles south of the Vallecitos and Polvadera road junction on the Abiquiu Land Grant; New Mexico state plane coordinates 1,856,249 feet north and 473,751 feet east. NAD 83, UTM 13 — 39 96 063 N; 03 79 431 E.

A—0 to 4 inches; yellowish brown (10YR 5/4) loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many fine and very fine roots; few very fine interstitial pores; 5 percent gravel; slightly effervescent; moderately alkaline; clear smooth boundary.

Bt1—4 to 10 inches; yellowish brown (10YR 5/4) loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky structure; slightly hard, very friable slightly sticky and slightly plastic; many fine and very fine roots; few very fine tubular pores; few thin clay films in pores; 5 percent gravel; slightly effervescent, moderately alkaline; clear smooth boundary.

Bt2—10 to 16 inches; dark yellowish brown (10YR 4/4) clay loam, brown (10YR 4/3) moist; strong subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common fine and very fine roots; few very fine tubular pores; common thin clay films on faces of peds; 10 percent gravel; strongly effervescent; moderately alkaline; clear smooth boundary.

Btk—16 to 25 inches; light yellowish brown (10YR 6/4) gravelly clay loam, dark yellowish brown (10YR 4/4) moist; strong subangular blocky structure; hard, firm, moderately sticky and slightly plastic; common fine and very fine roots; few very fine tubular pores; few thin clay films on faces of peds; 15 percent gravel; violently effervescent; few fine threads and seams of calcium carbonate; strongly alkaline; clear smooth boundary.

Bk1—25 to 40 inches; light yellowish brown (10YR 6/4) gravelly loam, dark yellowish brown (10YR 4/6) moist; massive; very hard, friable, slightly sticky and slightly plastic; common fine and very fine roots; few very fine tubular pores; 15 percent gravel; violently effervescent; few fine threads and seams of calcium carbonate; strongly alkaline; clear wavy boundary.

Bk2—40 to 60 inches; very pale brown (10YR 7/3) gravelly loam, pale brown (10YR 6/3) moist; massive; extremely hard, firm, slightly sticky and slightly plastic; few very fine tubular pores; violently effervescent; 15 percent gravel; strongly alkaline.

Range in Characteristics

A and Bt horizons:

Rock fragments: 0 to 10 percent gravel

Btk and Bk horizons:

Rock fragments: 15 to 30 percent gravel

Manzano Series

Map unit: 245

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Landform: flood plains

Parent material: stream alluvium derived from volcanic material

Elevation: 7,100 to 7,800 feet (2,164 to 2,377 meters)

Slope: 0 to 2 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Fine-loamy, mixed, mesic Cumulic Haplustolls

Typical Pedon

Manzano fine sandy loam, in an area of map unit 245, Maia-Manzano complex, 0 to 5 percent slopes; about 0.9 mile south and 0.4 mile west of the Vallecitos and Polvadera road junction on the Abiquiu Land Grant; New Mexico state plane coordinates 1,861,300 feet north and 471,300 feet east. NAD 83, UTM 13 — 39 97 612 N; 03 78 704 E.

A—0 to 3 inches; grayish brown (10YR 5/2) fine sandy loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; soft, very friable, slightly sticky and nonplastic; common fine and few very fine roots; few very fine interstitial pores; 5 percent gravel; neutral; clear smooth boundary.

Bw1—3 to 9 inches; dark grayish brown (10YR 4/2) loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; few very fine tubular pores; 5 percent gravel; slightly effervescent; neutral.

Bw2—9 to 19 inches; dark grayish brown (10YR 4/2) loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and few fine roots; few very fine tubular pores; few thin clay films in pores; neutral; slightly effervescent; clear smooth boundary.

C1—19 to 49 inches; dark grayish brown (10YR 4/2) loam, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; common very fine and few fine roots; few very fine tubular pores; neutral; slightly effervescent; abrupt smooth boundary.

2C2—49 to 60 inches; brown (7.5YR 5/4) gravelly loamy sand, brown (7.5YR 4/4) moist; massive; soft, friable, nonsticky nonplastic; few fine roots; few fine tubular pores; 20 percent gravel and 5 percent cobbles; slightly effervescent; neutral.

Range in Characteristics

2C2 horizon:

Rock fragments: 20 to 25 percent gravel and 0 to 5 percent cobbles

Mara Series

Map unit: 125

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: hills

Parent material: slope alluvium derived from sandstone and shale

Elevation: 7,400 to 8,200 feet (2,256 to 2,499 meters)

Slope: 2 to 12 percent

*Climatic data:**Mean annual precipitation:* 16 to 18 inches (406 to 457 millimeters)*Mean annual air temperature:* 40 to 45 degrees F. (4.4 to 7.2 degrees C.)*Frost-free period:* 80 to 100 days*Taxonomic class:* Fine-loamy, mixed, frigid Typic Ustochrepts**Typical Pedon**

Mara loam, in an area of map unit 125, Hogg-Mara loams, 2 to 12 percent slopes; about 6 miles west and 2.5 miles south of Chama on the Lee Wood Ranch, New Mexico state plane coordinates 2,126,040 feet north and 368,850 feet east. NAD 83, UTM 13 — 40 78 699 N; 03 48 529 E.

A—0 to 2 inches; dark grayish brown (2.5Y 4/2) loam, very dark grayish brown (2.5Y 3/2) moist; weak fine granular structure; slightly hard, friable, slightly sticky, and plastic; and moderately plastic; many very fine and fine roots; many fine interstitial pores; strongly effervescent; slightly alkaline; abrupt smooth boundary.

Bw1—2 to 10 inches; grayish brown (2.5Y 5/2) clay loam, dark grayish brown (2.5Y 4/2) moist; moderate fine and medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common fine and very fine roots; common very fine tubular pores; strongly effervescent; slightly alkaline; clear smooth boundary.

Bw2—10 to 18 inches; brown (10YR 5/3) silty clay loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine and fine roots; common very fine and fine tubular pores; strongly effervescent; slightly alkaline; gradual smooth boundary.

Bk1—18 to 30 inches; pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine and medium roots; few fine tubular pores; 10 percent gravel; strongly effervescent; few fine and medium masses of calcium carbonate; slightly alkaline; gradual smooth boundary.

Bk2—30 to 60 inches; pale brown (10YR 6/3) clay loam, brown (10YR 5/3) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine roots; few fine continuous tubular pores; 10 percent soft shale fragments; strongly effervescent; few medium masses of calcium carbonate; slightly alkaline.

Range in Characteristics**A horizon:***Hue:* 10YR or 2.5YR*Value:* 2 to 5 dry, 2 to 4 moist*Chroma:* 2 to 4**Bw and Bk horizons:***Hue:* 10YR or 2.5Y*Value:* 3 to 6 dry, 4 or 5 moist*Chroma:* 2 to 4*Texture, fine earth fraction:* clay loam or silty clay loam**Menefee Series***Map units:* 20, 40, 102, 110, 115, 220*Depth class:* shallow*Drainage class:* well drained*Slowest permeability:* .06 to 0.2 in./hr. (slow)*Landform:* breaks, hills

Parent material: colluvium over residuum derived from sandstone and shale

Elevation: 6,100 to 7,800 feet (1,859 to 2,377 meters)

Slope: 2 to 45 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Loamy, mixed, calcareous, mesic, shallow Typic Ustorthents

Typical Pedon

Menefee clay loam, in an area of map unit 102, Menefee-Nalivag complex, 8 to 25 percent slopes; about 1.5 miles south and 0.5 mile east of Llaves, Rio Arriba County, New Mexico; 2,280 feet west and 300 feet north of the SE corner of sec. 32, T. 25 N., R. 1 E.

A—0 to 2 inches; pale yellow (2.5Y 7/4) clay loam, light olive brown (2.5Y 5/4) moist; weak fine granular structure; slightly hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; few fine tubular pores; strongly effervescent; slightly alkaline; abrupt smooth boundary.

C—2 to 14 inches; light yellowish brown (2.5Y 6/4) clay loam, olive brown (2.5Y 4/4) moist; massive; hard, firm, moderately sticky and moderately plastic; common very fine, fine and few medium roots; common fine tubular pores; strongly effervescent; moderately alkaline; gradual smooth boundary.

Cr—14 inches; shale.

Range in Characteristics

A horizon:

Hue: 10YR and 2.5Y

Value: 5 to 7 dry, 3 to 5 moist

Chroma: 2 to 4

Texture, fine earth fraction: loam or clay loam

Rock fragments: 0 to 20 percent channers

C horizon:

Hue: 10YR and 2.5Y

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 to 4

Depth to paralithic contact: 10 to 20 inches

Nabor Series

Map unit(s): 203

Depth class: very deep

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: mountain slopes

Parent material: slope alluvium derived from shale

Elevation: 7,700 to 8,900 feet (2,347 to 2,713 meters)

Slope: 5 to 35 percent

Climatic data:

Mean annual precipitation: 25 to 28 inches (635 to 711 millimeters)

Mean annual air temperature: 40 to 44 degrees F. (4.4 to 6.7 degrees C.)

Frost-free period: 70 to 90 days

Taxonomic class: Fine, mixed Pachic Argiborolls

Typical Pedon

Nabor silty clay loam, in an area of map unit 203, Nabor-Elbuck complex, 5 to 35 percent slopes; about 4.8 miles east and 1.7 miles south of Monero, New Mexico; New Mexico state plane coordinate 2,139,730 feet north and 346,465 feet east. NAD 83, UTM 13 — 40 82 960 N; 03 41 762 E.

A—0 to 6 inches; dark grayish brown (10YR 4/2) silty clay loam, very dark brown (10YR 2/2) moist; moderate fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; common medium, fine and few very fine roots; few very fine vesicular pores; neutral, clear smooth boundary.

Bt1—6 to 17 inches; very dark gray (10YR 3/1) silty clay loam, black (10YR 2/1) moist; strong fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few medium and common fine roots; few very fine continuous tubular pores; common moderately thick clay films on faces of peds; slightly alkaline; clear smooth boundary.

Bt2—17 to 26 inches; very dark gray (10YR 3/1) silty clay, black (10YR 2/1) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few medium and common fine roots; few very fine continuous tubular pores; many moderately thick clay films on faces of peds; neutral; gradual wavy boundary.

Bt3—26 to 37 inches; very dark grayish brown (10YR 3/2) silty clay, very dark brown (10YR 2/2) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few medium and common fine roots; few very fine continuous tubular pores; common moderately thick clay films on faces of peds; slightly alkaline; clear smooth boundary.

Bk—37 to 60 inches; brown (10YR 5/3) silty clay loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few medium and fine roots; few very fine continuous tubular pores; strongly effervescent; very few fine masses of calcium carbonate; slightly alkaline.

Range in Characteristics

A horizon:

Value: 3 or 4 dry, 2 or 3 moist

Chroma: 1 or 2

Bt horizon:

Value: 3 or 4 dry, 2 or 3 moist

Chroma: 1 or 2

Texture, fine earth fraction: clay, silty clay, or silty clay loam

Bk horizon:

Value: 4 to 6 dry, 4 or 5 moist

Chroma: 2 or 3

Texture, fine earth fraction: silty clay or silty clay loam

Calcium carbonate equivalent: 0 to 15 percent

Nalivag Series

Map units: 80, 102

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: fan remnants and hills

Parent material: fan and slope alluvium derived from sandstone and shale

Elevation: 6,900 to 7,400 feet (2,103 to 2,256 meters)

Slope: 2 to 15 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Fine-loamy, mixed, calcareous, mesic Typic Ustorthents

Typical Pedon

Nalivag loam, in an area of map unit 80, Orlie-Nalivag loams, 2 to 8 percent slopes; about 7 miles south of Llaves, New Mexico; and about 450 feet west and 930 feet south of the northeast corner of sec. 31, T. 24 N., R. 1 E.

A—0 to 3 inches; light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; weak fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine vesicular pores; neutral; clear smooth boundary.

C1—3 to 27 inches; light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; many very fine and common fine roots; common very fine tubular pores; slightly effervescent; slightly alkaline; gradual smooth boundary.

C2—27 to 48 inches; brown (10YR 5/3) clay loam, very dark grayish brown (10YR 3/2) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; slightly effervescent; slightly alkaline; gradual smooth boundary.

C3—48 to 60 inches; yellowish brown (10YR 5/4) loam, brown (10YR 4/3) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; slightly effervescent; slightly alkaline.

Range in Characteristics

A horizon:

Value: 4 or 5 moist

Chroma: 2 or 4

C horizons:

Value: 5 or 6 dry, 3 to 5 moist

Chroma: 2 to 4

Texture, fine earth fraction: clay loam or loam

Note: Rock fragments in the profile range from 0 to 10 percent gravel.

Nusmag Series

Map units: 119, 129

Depth class: very deep

Drainage class: moderately well drained

Slowest permeability: .01 to .06 in./hr. (very slow)

Landform: stream terraces

Parent material: stream alluvium derived from shale

Elevation: 7,400 to 8,000 feet (2,256 to 2,438 meters)

Slope: 0 to 3 percent

*Climatic data:**Mean annual precipitation:* 16 to 18 inches (406 to 457 millimeters)*Mean annual air temperature:* 40 to 45 degrees F. (4.4 to 7.2 degrees C.)*Frost-free period:* 80 to 100 days*Taxonomic class:* Fine, mixed Cumulic Haploborolls**Typical Pedon**

Nusmag clay loam, in an area of map unit 129, Nusmag-Tottles clay loams, 0 to 3 percent slopes; 8.8 miles west and 4.0 miles south of Chama, New Mexico; New Mexico state plane coordinates 2,128,400 feet north and 352,600 feet east. NAD 83, UTM 13 — 40 79 483 N; 03 43 586 E.

A—0 to 2 inches; dark grayish brown (10YR 4/2) clay loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; slightly hard, firm, moderately sticky and moderately plastic; common very fine and fine roots; common fine tubular pores; slightly alkaline; clear smooth boundary.

Bw—2 to 18 inches; dark grayish brown (10YR 4/2) clay, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; slightly hard, very firm, moderately sticky and moderately plastic; common very fine and fine roots; common fine and few very fine tubular pores; slightly effervescent; slightly alkaline; gradual smooth boundary.

C—18 to 60 inches; grayish brown (10YR 5/2) clay, dark grayish brown (10YR 4/2) moist; massive; very hard, very firm, very sticky and very plastic; few very fine and fine roots; few fine tubular pores; strongly effervescent; slightly alkaline; gradual smooth boundary.

Range in Characteristics**A horizon:***Hue:* 10YR or 2.5Y*Value:* 3 to 5 dry, 2 or 3 moist*Chroma:* 1 to 3**Bw horizon:***Hue:* 10YR or 2.5Y*Value:* 3 to 5 dry, 2 or 3 moist*Chroma:* 1 to 3**C horizon:***Hue:* 10YR or 2.5Y*Value:* 4 or 5 dry, 3 or 4 moist*Chroma:* 2 or 3

Notes: Rock fragments in the profile range from 0 to 15 percent gravel.

A seasonal water table is within 42 to 60 inches of the surface.

Oelop Series*Map units:* 173, 180, 182*Depth class:* very deep*Drainage class:* well drained*Slowest permeability:* 0.2 to 0.6 in./hr. (moderately slow)*Landform:* stream terraces*Parent material:* stream alluvium derived from mixed sources*Elevation:* 5,900 to 7,200 feet (1,798 to 2,195 meters)*Slope:* 0 to 9 percent

*Climatic data:**Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 48 to 50 degrees F. (8.9 to 10.0 degrees C.)*Frost-free period:* 120 to 140 days*Taxonomic class:* Fine-loamy, mixed, mesic Ustollic Haplargids**Typical Pedon**

Oelop fine sandy loam, in an area of map unit 173, Oelop fine sandy loam, 1 to 5 percent slopes; about 2.4 miles west and one mile north of Espanola, New Mexico; New Mexico state plane coordinates 1,822,000 feet north and 5,362,000 feet east. NAD 83, UTM 13 – 39 86 063 N; 03 45 240 E.

A—0 to 5 inches; brown (7.5YR 5/4) fine sandy loam, brown (7.5YR 4/4) moist; weak fine granular structure; soft, very friable, nonsticky and slightly plastic; common fine and very fine roots; few fine irregular pores; 10 percent gravel; slightly alkaline; clear smooth boundary.

Bt1—5 to 9 inches; brown (7.5YR 5/4) clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and few fine roots; few very fine tubular pores; few thin clay films on faces of peds; slightly alkaline; clear smooth boundary.

Bt2—9 to 12 inches; brown (7.5 YR 7.5YR 5/4) clay loam, brown (7.5YR 4/4) moist; moderate fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine roots; few very fine and fine tubular pores; common moderately thick clay films on faces of peds; slightly effervescent; slightly alkaline; clear smooth boundary.

Btk—12 to 19 inches; brown (7.5YR 5/4) clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine roots; few very fine tubular pores; common moderately thick clay films on faces of peds and in pores; 5 percent gravel; strongly effervescent; few fine irregular seams of calcium carbonate; moderately alkaline; gradual wavy boundary.

Bk1—19 to 45 inches; brown (7.5YR 5/4) sandy clay loam, brown (7.5YR 4/4) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; 5 percent gravel; violently effervescent; few thin irregular seam and coating of gravel of calcium carbonate; moderately alkaline; gradual smooth boundary.

Bk2—45 to 60 inches; light brown (7.5YR 6/4) sandy loam, brown (7.5YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; 20 percent gravel; violently effervescent; few thin irregular seams and coatings on gravel of calcium carbonate; moderately alkaline.

Range in Characteristics**A horizon:***Texture, fine earth fraction:* fine sandy loam, loam, or sandy loam**Bt horizon:***Value:* 5 or 6 dry, 4 or 5 moist**Bk horizon:***Value:* 5 through 7 dry, 4 through 6 moist*Texture, fine earth fraction:* sandy clay loam, clay loam, loam, or sandy loam

Orlie Series

Map units: 31, 80, 103, 110

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: fan remnants, mesas and plateaus

Parent material: fan and slope alluvium derived from sandstone and shale

Elevation: 6,100 to 7,500 feet (1,859 to 2,286 meters)

Slope: 1 to 8 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Fine-loamy, mixed, mesic Aridic Haplustalfs

Typical Pedon

Orlie fine sandy loam, in an area of map unit 103, Orlie fine sandy loam, 1 to 8 percent slopes; about 0.7 mile east and 3.4 miles south of Ojo Caliente, New Mexico; 1,320 feet north and 1,135 feet east of the southwest corner of section 6, T.23N, R.9E.

A—0 to 3 inches; brown (7.5YR 5/4) fine sandy loam, brown (7.5YR 4/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common fine and very fine roots; few very fine irregular pores; 10 percent gravel; neutral; abrupt smooth boundary.

Bt—3 to 13 inches; brown (7.5YR 4/4) clay loam, dark brown (7.5YR 3/4) moist; moderate medium subangular blocky structure; hard, firm, slightly sticky and slightly plastic; common fine and few very fine roots; common very fine tubular pores; 5 percent gravel; common thin clay films on faces of peds; slightly alkaline; clear smooth boundary.

Btk—13 to 21 inches; brown (7.5YR 5/4) clay loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; hard, firm, moderately sticky and slightly plastic; few very fine roots; common fine tubular pores; 5 percent gravel; few thin clay films on faces of peds; strongly effervescent; moderately alkaline; clear smooth boundary.

Bk—21 to 60 inches; light brown (7.5YR 6/4) sandy clay loam, brown (7.5YR 5/4) moist; massive; hard, firm, nonsticky and nonplastic; few very fine roots; few very fine tubular pores; strongly effervescent; few fine seams and few fine rounded masses of calcium carbonate; moderately alkaline.

Range in Characteristics

A horizon:

Hue: 7.5YR or 10YR

Value: 4 to 6 dry, 4 to 5 moist

Chroma: 2 to 4

Texture, fine earth fraction: fine sandy loam, loam, or silt loam

Rock fragments: 0 to 10 percent gravel

Bt horizon:

Hue: 7.5YR or 10YR

Value: 4 to 6 dry, 4 or 5 moist

Chroma: 3 to 6

Palacid Series

Map unit: 146

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: hills

Parent material: slope alluvium and colluvium derived from mixed sources

Elevation: 5,800 to 7,200 feet (1,768 to 2,195 meters)

Slope: 10 to 40 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Fine-loamy, mixed, mesic Ustollic Haplargids

Typical Pedon

Palacid very gravelly sandy loam, in an area of map unit 146, Parida-Palacid very gravelly sandy loams, 10 to 40 percent slopes; about 4 miles north of Chimayo, New Mexico, along Arroyo Palacio; New Mexico state plane coordinates 1,845,600 north and 588,400 east. NAD 83, UTM 13 — 39 92 370 N; 04 43 325 E.

A—0 to 4 inches; dark grayish brown (10YR 4/2) very gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium granular structure; soft, very friable, nonsticky and slightly plastic; many fine and common very fine roots; common very fine tubular pores; 50 percent gravel and 5 percent cobbles; neutral; abrupt smooth boundary.

AB—4 to 8 inches; brown (10YR 4/3) loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common medium and few fine roots; common very fine tubular pores; 10 percent gravel; slightly alkaline; diffuse wavy boundary.

Bt—8 to 14 inches; brown (7.5YR 4/4) loam, dark brown (7.5YR 3/4) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common medium and few fine roots; common very fine and few fine tubular pores; few thin clay films on faces of peds and in pores; 10 percent gravel; slightly alkaline; diffuse wavy boundary.

Btk—14 to 45 inches; brown (10YR 5/3) clay loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few medium, fine and very fine roots; few fine and common very fine tubular pores; few thin clay films on faces of peds; 10 percent gravel; strongly effervescent; few medium masses of calcium carbonate; moderately alkaline; diffuse smooth boundary.

Bk—45 to 68 inches; pale brown (10YR 6/3) gravelly clay loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, friable, moderately sticky and moderately plastic; few medium and fine roots; few fine and common very fine tubular pores; 20 percent gravel; strongly effervescent; few medium irregular masses of calcium carbonate; moderately alkaline.

Range in Characteristics

A horizon:

Chroma: 2 to 3

Bt horizon:*Hue:* 10YR or 7.5YR*Value:* 4 or 5 dry, 3 or 4 moist*Chroma:* 3 or 4*Texture, fine earth fraction:* loam or clay loam*Rock fragments:* 10 to 15 percent gravel**Bk horizon:***Hue:* 10YR*Value:* 5 or 6 dry and 3 or 4 moist*Chroma:* 3 or 4*Texture, fine earth fraction:* clay loam or loam*Rock fragments:* 15 to 30 percent gravel**Palon Series***Map unit:* 710*Depth class:* very deep*Drainage class:* well drained*Slowest permeability:* 2.0 to 6.0 in./hr. (moderately rapid)*Landform:* mountain slopes*Parent material:* colluvium derived from rhyolite*Elevation:* 8,500 to 10,000 feet (2,591 to 3,048 meters)*Slope:* 40 to 80 percent*Climatic data:**Mean annual precipitation:* 25 to 28 inches (635 to 711 millimeters)*Mean annual air temperature:* 40 to 44 degrees F. (4.4 to 6.7 degrees C.)*Frost-free period:* 70 to 90 days*Taxonomic class:* Loamy-skeletal, mixed, Psammentic Eutroboralfs**Typical Pedon**

Palon very gravelly sandy loam, in an area of map unit 710, Calaveras-Palon very gravelly sandy loams, 40 to 80 percent slopes; about 8 miles north and 5 miles west of Los Alamos, New Mexico state plane coordinates 1,816,100 feet north and 456,400 feet east. NAD 83, UTM 13 — 39 83 896 N; 03 73 986 E.

Oi—0 to 1 inch; pine needles

E—1 inch to 16 inches; light gray (10YR 7/2) very gravelly sandy loam, dark grayish brown (10YR 4/2) moist; moderate fine and medium granular structure; soft, very friable, non-sticky and nonplastic; common very fine, fine, medium and few coarse roots; many very fine and fine vesicular pores; 40 percent gravel and 10 percent cobbles; neutral; clear smooth boundary.

Bt1—16 to 40 inches; light gray (10YR 7/2) very gravelly loamy sand, grayish brown (10YR 4/2) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; sandy loam lamellae 1/4 to 1 inch thick and totaling more than 6 inches in thickness; common very fine, fine, few medium and coarse roots; many very fine and fine vesicular pores; 45 percent gravel and 15 percent cobbles; moderately acid; clear wavy boundary.

Bt2—40 to 60 inches; light gray (10YR 7/1) extremely cobbly sandy loam, dark gray (10YR 4/1) moist; weak fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; few sandy loam lamellae 1/4 to 1/2 inch thick; few very fine, fine, medium and coarse roots; common very fine and fine vesicular pores; 35 percent gravel and 35 percent cobbles; slightly acid.

Range in Characteristics

E horizon:

Rock fragments: 35 to 50 percent gravel and 0 to 10 percent cobbles

Bt horizons:

Rock fragments: 35 to 45 percent gravel and 10 to 40 percent cobbles

Parida Series

Map unit: 146

Depth class: very deep

Drainage class: well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Landform: hills

Parent material: slope alluvium and colluvium derived from mixed sources

Elevation: 5,800 to 7,200 feet (1,768 to 2,195 meters)

Slope: 10 to 40 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Coarse-loamy, mixed, mesic Ustollic Camborthids

Typical Pedon

Parida very gravelly sandy loam, in an area of map unit 146, Parida-Palacid very gravelly sandy loams, 10 to 40 percent slopes; about 4.5 miles north of Chimayo, New Mexico, along Arroyo Palacio; New Mexico state plane coordinates 1,849,400 north and 585,000 east. NAD 83, UTM 13 — 39 93 541 N; 04 13 304 E.

A—0 to 3 inches; dark brown (10YR 3/3) very gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable, slightly sticky and nonplastic; many fine and very fine roots; common fine interstitial pores; 50 percent gravel and 10 percent cobbles; neutral; clear smooth boundary.

Bw1—3 to 12 inches; brown (10YR 4/3) gravelly sandy loam, dark brown (10Y 3/3) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; common medium, fine and very fine roots; common fine tubular pores; 15 percent gravel; neutral; clear wavy boundary.

Bw2—12 to 28 inches; pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few medium, common fine and few very fine roots; common fine tubular pores; 15 percent gravel; neutral; clear wavy boundary;.

Bk—28 to 65 inches; very pale brown (10YR 7/3) gravelly sandy loam, pale brown (10YR 6/3) moist; massive; slightly hard, very friable, slightly sticky and nonplastic; few medium and fine roots; few fine tubular pores; 20 percent gravel and 5 percent cobbles; slightly effervescent; calcium carbonate coatings on cobbles and gravel; slightly alkaline.

Range in Characteristics

Bw horizon:

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 3 or 4

Rock fragments: 15 to 30 percent gravel and 0 to 5 percent cobbles

Bk horizon:

Value: 6 or 7 dry, 5 or 6 moist

Chroma: 3 or 4

Rock fragments: 15 to 30 percent gravel and 0 to 5 percent cobbles

Pastorius Series

Map unit: 118

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Landform: stream terraces

Parent material: stream alluvium derived from mixed sources

Elevation: 8,000 to 8,700 feet (2,438 to 2,652 meters)

Slope: 1 to 5 percent

Climatic data:

Mean annual precipitation: 18 to 25 inches (457 to 635 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Loamy-skeletal, mixed Pachic Argiborolls

Typical Pedon

Pastorius silt loam, in an area of map unit 118, Hesperus-Pastorius-Chamita complex, 0 to 5 percent slopes; 3 miles north and 2.5 miles west of Chama, New Mexico; New Mexico state plane coordinates 2,158,225 feet north and 397,760 feet east.

- A—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium granular structure; slightly hard, friable, slightly sticky and moderately plastic; many very fine and common fine roots; many fine and common very fine interstitial pores; 5 percent cobbles; slightly acid; clear smooth boundary.
- BA—5 to 12 inches; dark grayish brown (10YR 4/2) silt loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and moderately plastic; many very fine and common fine roots; many fine vesicular pores; common thin clay films on faces of peds; 10 percent cobbles; slightly acid; gradual smooth boundary.
- Bt1—12 to 20 inches; dark grayish brown (10YR 4/2) cobbly loam, very dark brown (10YR 2/2) moist; weak coarse subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine roots; common fine vesicular pores; many moderately thick clay films on faces of peds; 30 percent cobbles; slightly acid; abrupt wavy boundary.
- Bt2—20 to 35 inches; brown (7.5YR 4/4) very cobbly sandy clay loam, dark brown (7.5YR 3/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few fine vesicular pores; many thick clay films on faces of peds; 15 percent gravel, 30 percent cobbles and 10 percent stones; neutral; gradual wavy boundary.
- Bt3—35 to 60 inches; brown (7.5YR 5/4) very cobbly loam, brown (7.5YR 4/4) moist; weak coarse subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; common moderately thick clay films on faces of peds; 15 percent gravel, 30 percent cobbles, and 10 percent stones; neutral.

Range in Characteristics

A horizon:

Rock fragments: 0 to 5 percent gravel and 5 to 10 percent cobbles

Bt Horizon:

Rock fragments: 10 to 20 percent gravel and 30 to 40 percent cobbles

Pena Series

Map unit: 246

Depth class: very deep

Drainage class: well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Landform: bajadas and knolls

Parent material: fan alluvium derived from volcanic material

Elevation: 7,100 to 7,800 feet (2,164 to 2,377 meters)

Slope: 2 to 15 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Loamy-skeletal, mixed, mesic Aridic Calcistolls

Typical Pedon

Pena gravelly sandy loam, in an area of map unit 246, Pena gravelly sandy loam, 2 to 15 percent slopes; about 0.8 mile north of the Vallecitos and Polvadera road junction, on the Abiquiu land grant; New Mexico state plane coordinates 1,870,700 feet north and 733,000 east. NAD 83, UTM 13 — 40 00 414 N; 03 79 211 E.

- A1—0 to 2 inches; grayish brown (10YR 5/2) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable, slightly sticky and nonplastic; few fine and very fine roots; few fine interstitial pores; 25 percent gravel; strongly effervescent; moderately alkaline; clear smooth boundary.
- A2—2 to 8 inches; dark grayish brown (10YR 4/2) cobbly sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; common fine and few very fine and medium roots; few fine vesicular pores; 5 percent gravel and 20 percent cobbles; violently effervescent; moderately alkaline; clear smooth boundary.
- Bk1—8 to 17 inches; dark grayish brown (10YR 4/2) very cobbly sandy loam, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine, common fine and medium roots; few fine vesicular pores; 5 percent gravel, 30 percent cobbles and 5 percent stones; strongly effervescent; calcium carbonate coatings on bottom of gravel, cobbles and stones; moderately alkaline; clear smooth boundary.
- Bk2—17 to 30 inches; brown (10YR 5/3) very cobbly sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine, fine and many medium roots; few fine vesicular pores; 10 percent gravel, 30 percent cobbles and 5 percent stones; violently effervescent; calcium carbonate coatings on bottom of gravel, cobbles and stones; moderately alkaline; clear smooth boundary.

Bk3—30 to 60 inches; pinkish white (7.5YR 8/2) very cobbly sandy loam, light brown (7.5YR 6/4) moist; massive; very hard, very firm, nonsticky and nonplastic; few fine roots; few fine vesicular pores; 5 percent gravel, 35 percent cobbles and 10 percent stones; violently effervescent; thin nearly continuous calcium carbonate coatings on rock fragments; moderately alkaline.

Range in Characteristics

A horizon:

Rock fragments: 15 to 35 percent

Bk horizons:

Rock fragments: 5 to 15 percent gravel, 25 to 35 percent cobbles, and 0 to 10 percent stones

Texture, fine earth fraction: loam or sandy loam

Peney Series

Map unit: 108

Depth class: shallow

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: hills

Parent material: slope alluvium derived from limestone

Elevation: 7,100 to 7,800 feet (2,164 to 2,377 meters)

Slope: 3 to 20 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Loamy, mixed, mesic Lithic Ustochrepts

Typical Pedon

Peney channery loam, in an area of map unit 108, Peney-Ransect association, 1 to 20 percent slopes; about 2.4 miles south and 2.9 miles west of junction of NM Highway 115 and U.S. Highway 84; 2,000 feet east and 100 feet south of the northwest corner of sec. 31, T.26N., R.4E.

A—0 to 3 inches; brown (10YR 5/3) channery loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; few fine interstitial pores; 20 percent limestone channers; violently effervescent; slightly alkaline; clear smooth boundary.

Bk1—3 to 7 inches; grayish brown (10YR 5/2) silt loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; few very fine tubular pores; violently effervescent; few large masses of calcium carbonate; slightly alkaline; abrupt smooth boundary.

Bk2—7 to 10 inches; very pale brown (10YR 7/3) silt loam, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, moderately sticky and slightly plastic; few very fine and medium roots; few very fine tubular pores; violently effervescent; many large masses of calcium carbonates; slightly alkaline; abrupt smooth boundary.

R—10 inches; limestone bedrock.

Range in Characteristics

Note: Rock fragments in the profile range from 0 to 20 percent channers.

A horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

Bk horizon:

Value: 4 to 7 dry, 3 to 5 moist

Chroma: 2 to 4

Texture, fine earth fraction: loam, clay loam, or silt loam

R horizon:

Depth to bedrock ranges from 10 to 20 inches.

Penistaja Series

Map unit: 243

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Landform: fan remnants and mesas

Parent material: eolian deposits and fan alluvium derived from sandstone and shale

Elevation: 6,000 to 6,600 feet (1,829 to 2,012 meters)

Slope: 2 to 8 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Fine-loamy, mixed, mesic Ustollic Haplargids

Typical Pedon

Penistaja fine sandy loam, map unit 243, Penistaja fine sandy loam, 2 to 8 percent slopes; about 3.4 miles south and 0.7 mile east of Ojo Caliente, New Mexico; 1,320 feet north, and 1,135 feet east of the SW corner of Sec. 6, T.23N., R.9E.

A—0 to 3 inches; brown (7.5YR 5/4) fine sandy loam, brown (7.5YR 4/4) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; common fine and very fine roots; few very fine interstitial pores; 10 percent gravel; neutral; abrupt smooth boundary.

Bt1—3 to 13 inches; brown (7.5YR 4/4) sandy clay loam, dark brown (7.5YR 3/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; many fine and few very fine roots; common very fine tubular pores; common thin clay films on faces of peds; 5 percent gravel; slightly alkaline; clear smooth boundary.

Bt2—13 to 18 inches; brown (7.5YR 5/4) sandy clay loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very common very fine roots; common very fine tubular pores; few thin clay films on faces of peds; 5 percent gravel; strongly effervescent; slightly alkaline; clear smooth boundary.

Bk—18 to 60 inches; pink (7.5YR 7/4) sandy loam, brown (7.5YR 5/4) moist; massive; hard, firm, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; strongly effervescent; calcium carbonate occurs in seams and masses; slightly alkaline.

Range in Characteristics

A horizon:

Rock fragments: 0 to 15 percent gravel

Bt horizon:

Rock fragments: 0 to 10 percent gravel

Bk Horizon:

Rock fragments: 0 to 10 percent gravel

Peralta Series

Map unit: 18

Depth class: very deep

Drainage class: somewhat poorly drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Landform: flood plains

Parent material: stream alluvium derived from sandstone

Elevation: 5,500 to 6,100 feet (1,676 to 1,859 meters)

Slope: 0 to 3 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 50 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Coarse-loamy, mixed, calcareous, mesic Typic Ustifluvents

Typical Pedon

Peralta loamy fine sand, in an area of map unit 18, Abiquiu-Peralta complex, 0 to 3 percent slopes; about 0.1 mile north and 0.1 mile east of the Arroyo Seco-Rio Grande Junction, New Mexico; 400 feet west and 1,000 feet south of the northeast corner of Sec.15, T.20N., R.8 E.

- A—0 to 4 inches; pale brown (10YR 6/3) loamy fine sand; brown (10YR 5/3) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; many fine and common medium roots; common fine and medium tubular pores; slightly effervescent; slightly alkaline; abrupt wavy boundary.
- C1—4 to 18 inches; very pale brown (10YR 7/3) loamy fine sand, brown (10YR 5/3) moist, massive; soft, very friable, slightly sticky and slightly plastic; common medium roots; common medium tubular pores; slightly effervescent; moderately alkaline; clear wavy boundary.
- C2—18 to 30 inches; very pale brown (10YR 7/3) fine sandy loam, brown (10YR 5/3) moist; massive; soft, very friable, slightly sticky and slightly plastic; common medium roots; common fine and medium tubular pores; slightly effervescent; moderately alkaline; abrupt smooth boundary.
- C3—30 to 56 inches; very pale brown (10YR 7/3) loamy sand, brown (10YR 5/3) moist; few fine distinct strong brown (7.5YR 5/8) mottles; massive; soft, very friable, slightly sticky and slightly plastic; common medium and few coarse roots; few medium tubular pores; slightly effervescent; moderately alkaline; clear smooth boundary.
- C4—56 to 65 inches; very pale brown (10YR 7/3) coarse sand, brown (10YR 5/3) moist; few medium distinct strong brown (7.5YR 5/8) mottles; loose, nonsticky and nonplastic; few medium and coarse roots; few medium irregular pores; 5 percent gravel; slightly effervescent; moderately alkaline.

Range in Characteristics

A horizon:

Value: 5 or 6 dry, 3 to 5 moist

Chroma: 3 or 4

C horizons:

Hue: 7.5YR or 10YR

Value: 3 to 7 dry, 3 to 5 moist

Chroma: 2 to 4

Texture, fine earth fraction: stratified silt loam, clay loam, very fine sandy loam, coarse sand, loam, sandy clay loam, fine sandy loam, loamy fine sand, and loamy sand

Salinity: EC of 4 to 20 mmhos/cm

Depth to mottles: 12 to 30 inches

Notes: A seasonal water table may occur from April through June.

Rock fragments in the profile range from 0 to 5 percent gravel.

The reaction is slightly alkaline to very strongly alkaline

Pinavetes Series

Map units: 9, 12, 142

Depth class: very deep

Drainage class: excessively drained

Slowest permeability: 6.0 to 20 in./hr. (rapid)

Landform: dunes

Parent material: eolian material derived from sandstone

Elevation: 5,600 to 7,000 feet (1,707 to 2,134 meters)

Slope: 0 to 12 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Mixed, mesic Ustic Torripsamments

Typical Pedon

Pinavetes loamy sand, in an area of map unit 142, Pinavetes loamy sand, 3 to 12 percent slopes; about 3.2 miles south and 0.5 mile east of Duranes, New Mexico; 1,800 feet south and 1,300 feet east of the northwest corner of Sec. 20, T.23N., R.9E.

A—0 to 2 inches; light yellowish brown (10YR 6/4) loamy sand, yellowish brown (10YR 5/4) moist; weak coarse granular structure; loose, nonsticky and nonplastic; common fine and few medium roots; few fine irregular pores; slightly alkaline; abrupt smooth boundary.

C—2 to 60 inches; light yellowish brown (10YR 6/3) loamy sand, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few fine roots; few fine tubular pores; slightly alkaline.

Range in Characteristics

A horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

C horizon:

Value: 5 or 6 dry, 4 or 5 moist*Chroma:* 3 or 4**Pinitos Series***Map unit:* 40*Depth class:* very deep*Drainage class:* well drained*Slowest permeability:* 0.6 to 2.0 in./hr. (moderate)*Landform:* hills*Parent material:* slope alluvium derived from sandstone and shale*Elevation:* 6,700 to 7,800 feet (2,042 to 2,377 meters)*Slope:* 2 to 10 percent*Climatic data:**Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 45 to 49 degrees F. (7.2 to 9.4 degrees C.)*Frost-free period:* 100 to 130 days*Taxonomic class:* Fine-loamy, mixed, mesic Aridic Haplustalfs**Typical Pedon**

Pinitos fine sandy loam, in an area of map unit 40, Pinitos-Menefee-Vessilla complex, 2 to 20 percent slopes; about 4 miles west and 1 mile south of Lindrith, New Mexico; 100 feet east of the southwest corner of sec. 23, T.24N., R.3W.

- A—0 to 4 inches; brown (7.5YR 5/4) fine sandy loam, dark brown (7.5YR 3/4) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine interstitial pores; neutral; clear smooth boundary.
- Bt1—4 to 15 inches; strong brown (7.5YR 4/6) sandy clay loam, dark brown (7.5YR 3/4) moist; weak medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few fine and medium roots; common fine tubular pores; few thin patchy clay films on faces of peds; neutral; clear smooth boundary.
- Bt2—15 to 28 inches; strong brown (7.5YR 5/6) sandy clay loam, strong brown (7.5YR 4/6) moist; weak fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few fine and medium roots; common fine tubular pores; few thin clay films on faces of peds; neutral; clear smooth boundary.
- C1—28 to 43 inches; strong brown (7.5YR 5/6) sandy clay loam, strong brown (7.5YR 5/6) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; slightly effervescent; slightly alkaline; gradual smooth boundary.
- C2—43 to 60 inches; reddish yellow (7.5YR 6/6) sandy loam, brown (7.5YR 5/4) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular pores; slightly effervescent; slightly alkaline.

Range in Characteristics

A horizon:

Value: 5 or 6 dry, 3 or 4 moist*Chroma:* 3 or 4

Bt horizon:

Value: 4 or 5 dry, 3 or 4 moist*Chroma:* 4 to 6

C horizon:

Value: 5 or 6 dry, 4 or 5 moist*Chroma:* 4 to 6**Puye Series***Map unit:* 302*Depth class:* shallow*Drainage class:* somewhat excessively drained*Slowest permeability:* 2.0 to 6.0 in./hr. (moderately rapid)*Landform:* mesas*Parent material:* slope alluvium derived from pumice*Elevation:* 6,300 to 7,200 feet (1,920 to 2,195 meters)*Slope:* 3 to 15 percent*Climatic data:**Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 45 to 49 degrees F. (7.2 to 9.4 degrees C.)*Frost-free period:* 100 to 130 days*Taxonomic class:* Loamy, mixed, mesic, shallow Typic Durochrepts**Typical Pedon**

Puye gravelly sandy loam, in an area of map unit 302;; Puye gravelly sandy loam, 3 to 15 percent slopes about 2.5 miles south and 5 miles west of Espanola, New Mexico; New Mexico state plane coordinates 1,804,700 feet north and 520,000 feet east. NAD 83, UTM 13 — 39 80 174 N; 03 93 323 E.

A—0 to 3 inches; pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, slightly sticky and nonplastic; few very fine and fine roots; few fine interstitial pores; 20 percent gravel; strongly effervescent; moderately alkaline; clear smooth boundary.

Bw—3 to 15 inches; pale brown (10YR 6/3) gravelly sandy loam, brown (10YR 4/3) moist; weak fine and medium subangular blocky structure; slightly hard, friable, slightly sticky and nonplastic; common very fine and fine, few medium and coarse roots; common fine tubular pores; 15 percent gravel; strongly effervescent; moderately alkaline; abrupt smooth boundary.

Bqm—15 to 16 inches; white indurated duripan, abrupt smooth boundary.

2Bq—16 to 33 inches; very pale brown (10YR 7/3) very gravelly loamy sand, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; discontinuous duripans are present; few fine tubular pores; 40 percent gravel; slightly effervescent; slightly alkaline; gradual smooth boundary.

2C—33 to 60 inches; very pale brown (10YR 7/3) very gravelly sand, yellowish brown (10YR 5/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; 40 percent gravel; slightly effervescent; slightly alkaline.

Range in Characteristics

A horizon:

Value: 5 or 6 dry, 3 or 4 moist*Chroma:* 3 or 4*Rock fragments:* 15 to 20 percent, dominantly gravel; cobbles make up no more than 5 percent of the total

Bw horizon:*Value:* 6 or 7 dry, 3 to 5 moist*Chroma:* 2 to 4*Texture, fine earth fraction:* sandy loam and fine sandy loam*Rock fragments:* 15 to 35 percent gravel; cobbles make up no more than 5 percent of the total**2Bq and 2C horizons:***Texture, fine earth fraction:* loamy sand, sand, or loamy coarse sand*Rock fragments:* 35 to 40 percent gravel*Depth to duripan:* 10 to 20 inches**Quimera Series***Map unit:* 214*Depth class:* shallow*Drainage class:* well drained*Slowest permeability:* .06 to 0.2 in./hr. (slow)*Landform:* hills*Parent material:* slope alluvium and colluvium derived from sandstone and shale*Elevation:* 6,900 to 7,400 feet (2,103 to 2,256 meters)*Slope:* 15 to 35 percent*Climatic data:**Mean annual precipitation:* 16 to 18 inches (406 to 457 millimeters)*Mean annual air temperature:* 40 to 45 degrees F. (4.4 to 7.2 degrees C.)*Frost-free period:* 80 to 100 days*Taxonomic class:* Clayey, mixed, calcareous, frigid Lithic Ustorthents**Typical Pedon**

Quimera very channery clay loam, in an area of map unit 214, Quimera-Vamer very channery clay loams, 10 to 35 percent slopes; about 1.5 miles north of Lumberton, New Mexico, on the Edith road; 1,355 feet east of the southwest corner of section 34, T.32N, R.1W.

A—0 to 3 inches grayish brown (10YR 5/2) very channery clay loam, dark grayish brown (10YR 4/2) moist; moderately fine granular structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; common very fine interstitial pores; 55 percent channers; neutral; clear smooth boundary.

Bw—3 to 9 inches; grayish brown (10YR 5/2) clay loam, dark grayish brown (10YR 4/2) moist; moderate medium subangular blocky structure; slightly hard, firm, slightly sticky and slightly plastic; few medium, fine and very fine roots; common very fine tubular pores; 5 percent channers; slightly effervescent; neutral; clear smooth boundary.

BC—9 to 15 inches; grayish brown (10YR 5/2) clay loam, dark grayish brown 10YR 4/2 moist; weak fine subangular blocky structure; hard, fine, slightly sticky and slightly plastic; few medium and fine roots; common very fine tubular pores; 10 percent channers; strongly effervescent; neutral; clear smooth boundary.

C—15 to 17 inches; dark grayish brown (10YR 4/2) clay, very dark grayish brown (10YR 3/1) moist; massive; hard, firm, moderately sticky and moderately plastic; few medium and fine roots; few very fine tubular pores; strongly effervescent; moderately alkaline; clear smooth boundary.

R—17 inches; hard calcareous sandstone and interbedded shale.

Range in Characteristics

A horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 or 3

Rock fragments: 35 to 55 percent channers

Bw horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 or 3

Rock fragments: 0 to 15 percent channers

C horizon:

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 1 or 2

Rock fragments: 0 to 15 percent gravel and channers

Note: Depth to bedrock ranges from 10 to 20 inches.

Ransect Series

Map unit: 108

Depth class: moderately deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: hills

Parent material: slope alluvium derived from limestone

Elevation: 7,100 to 7,800 feet (2,164 to 2,377 meters)

Slope: 1 to 6 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Fine-loamy, carbonatic, mesic Aridic Ustochrepts

Typical Pedon

Ransect silty clay loam, in an area of map unit 108, Peney-Ransect association, 1 to 20 percent slopes; about 2.4 miles south and 2.8 miles west of junction of NM Highway 115 and U.S. Highway 84; New Mexico state plane coordinates 1,983,400 feet north and 410,800 feet east. NAD 83, UTM 13 — 40 35 061 N; 03 60 747 E.

A—0 to 3 inches; light yellowish brown (10YR 6/4) silty clay loam, dark yellowish brown (10YR 4/4) moist; weak fine granular structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine roots; few very fine tubular pores; strongly effervescent; slightly alkaline; clear smooth boundary.

Bk1—3 to 16 inches; brown (10YR 5/3) clay loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common fine and medium roots; few very fine tubular pores; violently effervescent, many rounded masses of calcium carbonate; slightly alkaline; gradual smooth boundary.

Bk2—16 to 24 inches; brown (10YR 5/3) clay loam, brown (10YR 4/3) moist; massive; hard, friable, moderately sticky and moderately plastic; few medium roots; few very fine tubular pores; violently effervescent, many rounded masses of calcium carbonate accumulations; slightly alkaline; gradual smooth boundary.

Bk3—24 to 38 inches; light yellowish brown (10YR 6/4) clay loam, yellowish brown (10YR 5/4) moist; massive; hard, friable, moderately sticky and moderately plastic; few medium roots; few very fine tubular pores; violently effervescent, many rounded masses of calcium carbonate; slightly alkaline; abrupt smooth boundary.

R—38 inches; limestone bedrock.

Range in Characteristics

A horizon:

Value: 5 or 6 dry, 4 or 5 moist

Bk horizons:

Value: 5 to 7 dry, 3 to 5 moist

Chroma: 2 to 4

Note: Depth to bedrock ranges from 20 to 40 inches.

Razito Series

Map unit: 151

Depth class: very deep

Drainage class: somewhat excessively drained

Slowest permeability: 6.0 to 20 in./hr. (rapid)

Landform: dunes

Parent material: eolian material derived from sandstone

Elevation: 5,500 to 6,500 feet (1,676 to 1,981 meters)

Slope: 1 to 5 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 50 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Mixed, mesic Typic Torripsamments

Typical Pedon

Razito loamy sand, in an area of map unit 151, Razito-Fruitland complex, 1 to 5 percent slopes; about 0.3 mile north and 0.5 mile east of Alcalde, New Mexico; New Mexico state plane coordinates 1,852,600 north and 560,600 feet east. NAD 83, UTM 13 — 39 94 611 N; 04 05 882 E.

A—0 to 4 inches; brown (10YR 5/3) loamy sand, brown (10YR 4/3) moist; weak fine granular structure; loose, nonsticky and nonplastic; few very fine and fine roots; few very fine interstitial pores; slightly effervescent; moderately alkaline; abrupt smooth boundary.

C1—4 to 9 inches; yellowish brown (10YR 5/4) loamy sand, brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; few very fine and fine roots; few very fine vesicular pores; strongly effervescent; moderately alkaline; gradual smooth boundary.

C2—9 to 34 inches; pale brown (10YR 6/3) loamy sand, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; few very fine and fine roots; few very fine vesicular pores; strongly effervescent; moderately alkaline; gradual smooth boundary.

C3—34 to 60 inches; pale brown (10YR 6/3) loamy sand, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; few very fine vesicular pores; strongly effervescent; moderately alkaline.

Range in Characteristics

Rock fragments: 0 to 5 percent gravel

Redondo Series

Map unit: 802

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Landform: mountain slopes

Parent material: Residuum derived from tuff

Elevation: 9,400 to 10,800 feet (2,865 to 3,292 meters)

Slope: 5 to 25 percent

Climatic data:

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Taxonomic class: Loamy-skeletal, mixed Typic Cryoboralfs

Typical Pedon

Redondo gravelly sandy clay loam, map unit 802, Redondo gravelly sandy clay loam, 5 to 25 percent slopes; about 8.5 miles north and 5 miles west of Los Alamos, New Mexico; New Mexico state plane coordinates 1,818,800 feet north and 457,000 feet east. NAD 83, UTM 13 — 39 84 717 N; 03 74 179 E.

Oi—0 to 2 inches; spruce and fir needles

A—2 to 5 inches; light gray (10YR 7/2) gravelly sandy clay loam, grayish brown (10YR 5/2) moist; weak fine subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine, few medium and coarse roots; common very fine and fine vesicular pores; 15 percent gravel; neutral; clear smooth boundary.

E—5 to 16 inches; white (10YR 8/1) gravelly sandy clay loam, light brownish gray (10YR 6/2) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine, few medium and coarse roots; many very fine vesicular and common fine vesicular and tubular pores; 15 percent gravel and 5 percent cobbles; moderately acid; clear smooth boundary.

Bt1—16 to 38 inches; very pale brown (10YR 8/2) very cobbly sandy clay loam, grayish brown (10YR 5/2) moist; moderate fine and medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine, fine, medium and coarse roots; common very fine and fine tubular pores; few thin clay films on faces of peds; 15 percent gravel, 30 percent cobbles and 15 percent stones; moderately acid; gradual wavy boundary.

Bt2—38 to 60 inches; very pale brown (10YR 8/2) extremely stony sandy clay loam, grayish brown (10YR 5/2) moist; moderate medium and coarse subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine, fine, medium and coarse roots; few very fine and fine tubular pores; few moderately thick clay films on faces of peds; 10 percent gravel, 15 percent cobbles and 45 percent stones; moderately acid.

Range in Characteristics

A horizon:

Rock fragments: 15 to 25 percent gravel and 0 to 10 percent cobbles

E horizon:

Rock fragments: 15 to 20 percent gravel and 0 to 10 percent cobbles

Bt horizons:

Rock fragments: 5 to 15 percent gravel, 15 to 45 percent cobbles, and 15 to 45 percent stones

Rombo Series

Map unit: 127

Depth class: moderately deep

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: hills

Parent material: slope alluvium and colluvium derived from shale

Elevation: 7,400 to 8,100 feet (2,256 to 2,469 meters)

Slope: 5 to 25 percent

Climatic data:

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Fine, mixed, frigid Typic Ustochrepts

Typical Pedon

Rombo clay, in an area of map unit 127, Rombo-Wiggler complex, 5 to 25 percent slopes; about 5 miles south and 1 mile west of Chama, on the Lee Wood Ranch; New Mexico state plane coordinates 2,117,602 feet north and 401,400 feet east. NAD 83, UTM 13 — 40 75 997 N; 03 58 415 E.

A—0 to 4 inches; dark grayish brown (10YR 4/2) clay, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; hard, firm, very sticky and very plastic; common fine and medium roots; few fine tubular pores; neutral; clear smooth boundary.

Bw1—4 to 14 inches; dark grayish brown (2.5Y 4/2) clay, dark grayish brown (2.5Y 4/2) moist; weak medium prismatic structure parting to weak coarse subangular blocky structure; very hard, firm, very sticky and very plastic; common fine, medium and few coarse roots; few fine tubular pores; neutral; clear smooth boundary.

Bw2—14 to 21 inches; grayish brown (2.5Y 5/2) clay, dark grayish brown (2.5Y 4/2) moist; weak medium prismatic structure parting to weak coarse subangular blocky; very hard, firm, very sticky and very plastic; common fine, medium and few coarse roots; few fine tubular pores; strongly effervescent; slightly alkaline; gradual smooth boundary.

Bk—21 to 37 inches; grayish brown (2.5Y 5/2) clay, dark grayish brown (2.5Y 4/2) moist; massive; very hard, firm, very sticky and very plastic; common medium, fine and few coarse roots; few fine tubular pores; 15 percent soft shale channers; strongly effervescent; few fine masses of calcium carbonate; slightly alkaline; gradual smooth boundary.

2Cr—37 inches; shale.

Range in Characteristics

A horizon:

Value: 4 or 5 dry, and 2 or 3 moist

Rock fragments: 0 to 15 percent channers

Bw horizon:

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 2 or 3

Rock fragments: 0 to 15 percent channers

Note: Depth to a paralithic contact ranges from 20 to 40 inches.

Roques Series

Map unit: 119

Depth class: very deep

Drainage class: well drained

Slowest permeability: .001 to .06 in./hr. (very slow)

Landform: alluvial fans

Parent material: fan alluvium derived from shale

Elevation: 7,400 to 8,000 feet (2,256 to 2,438 meters)

Slope: 2 to 8 percent

Climatic data:

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Fine, mixed, frigid Typic Ustochrepts

Typical Pedon

Roques clay loam, in an area of map unit 119, Roques-Nusmag clay loams, 1 to 8 percent slopes; 2.5 miles west and 4.5 miles south of Chama, New Mexico; New Mexico state plane coordinates 2,123,230 feet north and 392,290 feet east. NAD 83, UTM 13 — 40 77 749 N; 03 55 661 E.

A—0 to 2 inches; light olive brown (2.5Y 5/4) clay loam, olive brown (2.5Y 4/4) moist; weak fine granular structure; soft, friable, moderately sticky and moderately plastic; few fine roots; few fine interstitial pores; neutral; abrupt smooth boundary.

Bw—2 to 15 inches; light olive brown (2.5Y 5/4) clay, olive brown (2.5Y 4/4) moist; weak coarse prismatic structure parting to weak coarse subangular blocky structure; very hard, firm, very sticky and very plastic; few very fine and fine roots; few fine tubular pores; slightly effervescent; slightly alkaline; gradual smooth boundary.

Bk—15 to 60 inches; light olive brown (2.5Y 5/4) clay, olive brown (2.5Y 4/4) moist; massive; very hard, very firm, very sticky and very plastic; few very fine roots; few very fine tubular pores; strongly effervescent, few fine masses of calcium carbonate; slightly alkaline.

Range in Characteristics

A horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 to 4

Bw horizon:

Value: 5 to 7 dry, 4 or 5 moist

Chroma: 2 to 4

Bk horizon:

Value: 5 to 7 dry, 4 or 5 moist

Chroma: 2 to 4

Rosced Series

Map unit: 145

Depth class: very deep

Drainage class: well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Landform: hills

Parent material: slope alluvium derived from igneous material

Elevation: 6,500 to 7,500 feet (1,981 to 2,286 meters)

Slope: 20 to 50 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Loamy-skeletal, mixed, mesic Aridic Ustochrepts

Typical Pedon

Rosced very gravelly sandy loam, in an area of map unit 145, Dermal-Rosced complex, 20 to 50 percent; about 5 miles north and 1.5 miles west of Chimayo, New Mexico; New Mexico state plane coordinates 1,850,400 feet north and 606,400 feet east. NAD 83, UTM 13 — 39 93 762 N; 04 19 829 E.

- A—0 to 5 inches; brown (10YR 4/3) very gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and common medium roots; common very fine and fine tubular pores; 50 percent gravel and 5 percent cobbles; slightly alkaline; clear smooth boundary.
- Bw1—5 to 16 inches; yellowish brown (10YR 5/4) gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine, medium and coarse roots; common fine and medium tubular pores; 25 percent gravel and 5 percent cobbles; slightly alkaline, clear smooth boundary.
- Bw2—16 to 23 inches; brown (10YR 5/3) very gravelly sandy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few medium roots; few medium tubular pores; 35 percent gravel and 10 percent cobbles; strongly effervescent; moderately alkaline; clear smooth boundary.
- Bk—23 to 33 inches; yellowish brown (10YR 5/4) very gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, slightly sticky and slightly plastic; few fine roots; few fine vesicular pores; 35 percent gravel and 5 percent cobbles; strongly effervescent; very few fine masses of calcium carbonate; moderately alkaline; clear smooth boundary.
- 2C1—33 to 42 inches; yellowish brown (10YR 5/4) very gravelly coarse sand, dark yellowish brown (10YR 4/4) moist; single grain; loose, nonsticky and nonplastic; few fine roots; 35 percent gravel and 5 percent cobbles; slightly effervescent; moderately alkaline; clear smooth boundary.
- 2C2—42 to 60 inches; brownish yellow (10YR 6/6) very gravelly coarse sand, yellowish brown (10YR 5/6) moist; single grain; loose, nonsticky and nonplastic; few fine roots; 35 percent gravel and 5 percent cobbles; slightly effervescent; moderately alkaline.

Range in Characteristics

A horizon:

Value: 4 to 6 dry, 3 or 4 moist

Chroma: 2 to 4

Rock fragments: 40 to 50 percent gravel and 0 to 10 percent cobbles

Bw horizon:

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 3 or 4

Rock fragments: 25 to 45 percent gravel and 5 to 10 percent cobbles

Bk and 2C horizons:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 4 to 6

Rock fragments: 35 to 40 percent gravel and 5 to 10 percent cobbles

Royosa Series

Map unit: 69

Depth class: very deep

Drainage class: somewhat excessively drained

Slowest permeability: Greater than 20 in./hr. (very rapid)

Landform: dunes

Parent material: eolian material derived from sandstone

Elevation: 6,600 to 7,300 feet (2,012 to 2,225 meters)

Slope: 2 to 7 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Mixed, mesic Typic Ustipsamments

Typical Pedon

Royosa sandy loam, in an area of map unit 69, Lindrith-Royosa complex, 2 to 7 percent slopes; about 1.5 miles north and 6 miles west of Lindrith, New Mexico; 2,300 feet south and 900 feet west of the northeast corner of sec. 9, T.24N., R.3W.

A—0 to 2 inches; yellowish brown (10YR 5/4) sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine granular structure; soft, very friable, slightly sticky and nonplastic; many very fine and fine roots; common very fine and fine interstitial pores; slightly effervescent; slightly alkaline; abrupt smooth boundary.

C1—2 to 12 inches; yellowish brown (10YR 5/4) loamy sand, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and medium roots; few fine vesicular pores; slightly effervescent; slightly alkaline; gradual smooth boundary.

C2—12 to 33 inches; light yellowish brown (10YR 6/4) loamy sand, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and medium roots; few very fine vesicular pores; slightly effervescent; slightly alkaline; gradual smooth boundary.

C3—33 to 60 inches; yellowish brown (10YR 5/4) loamy sand, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; slightly effervescent; slightly alkaline.

Range in Characteristics

A horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

C horizon:

Value: 4 to 6 dry, 3 to 5 moist

Chroma: 3 or 4

Rusbach Series

Map unit: 803

Depth class: very deep

Drainage class: somewhat excessively drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Landform: mountain slopes

Parent material: colluvium derived from tuff

Elevation: 8,600 to 10,800 feet (2,621 to 3,292 meters)

Slope: 40 to 80 percent

Climatic data:

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Taxonomic class: Sandy-skeletal, mixed Alfic Cryorthents

Typical Pedon

Rusbach cobbly sandy loam, in an area of map unit 803, Rusbach cobbly sandy loam, 40 to 80 percent slopes; about 7 miles north and 5 miles west of Los Alamos, New Mexico; New Mexico state plane coordinates 1,810,700 feet north and 457,000 feet east. NAD 83, UTM 13 — 39 82 248 N; 03 74 148 E.

Oi—0 to 2 inches; pine needles

E1—2 to 16 inches; light gray (10YR 7/2) cobbly sandy loam, dark grayish brown (10YR 4/2) moist; moderate fine and medium granular structure; soft, very friable, nonsticky and nonplastic; many very fine, fine and common medium roots; many very fine and fine vesicular pores; 10 percent gravel and 10 percent cobbles; neutral; clear wavy boundary.

E2—16 to 25 inches; light gray (10YR 7/2) cobbly loamy sand, grayish brown (10YR 5/2) moist; moderate fine granular structure; slightly hard, friable, nonsticky and nonplastic; many very fine, common fine and medium, and few coarse roots; common very fine and fine vesicular pores; 10 percent gravel and 20 percent cobbles; moderately acid; clear wavy boundary.

Bw1—25 to 48 inches; pinkish gray (7.5YR 7/2) very cobbly loamy sand, brown (7.5YR 5/4) moist; weak fine and medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few thin sandy loam lamellae; common very fine and fine, few medium and coarse roots; common very fine, fine and few medium vesicular pores; 20 percent gravel and 25 percent cobbles; strongly acid; clear wavy boundary.

Bw2—48 to 70 inches; light gray (10YR 7/2) very cobbly loamy sand, brown (10YR 4/3) moist; weak fine and medium subangular blocky structure; slightly hard, friable, nonsticky and nonplastic; few thin sandy loam lamellae; common fine and few medium roots; common very fine, fine and few medium vesicular pores; 20 percent gravel and 25 percent cobbles; moderately acid.

Range in Characteristics

Note: Some pedons have thin A horizons.

E horizon:

Hue: 7.5YR or 10YR

Value: 7 or 8 dry, 4 to 7 moist

Chroma: 1 to 4

Rock fragments: 15 to 35 percent primarily cobbles

Bw horizon:

Hue: 10YR or 7.5YR

Value: 5 to 8 dry, 4 to 7 moist

Chroma: 2 to 4

Rock fragments: 35 to 70 percent, primarily cobbles

Ruson Series

Map units: 107, 113

Depth class: very deep

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: stream terraces

Parent material: stream alluvium derived from shale

Elevation: 7,100 to 7,600 feet (2,164 to 2,316 meters)

Slope: 1 to 3 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Fine, mixed, calcareous, mesic Typic Ustorthents

Typical Pedon

Ruson silt loam in an area of map unit 107, Berryman-Ruson association, 1 to 8 percent slopes; east of Berryman Ranch Headquarters; 2,700 feet west and 1,980 feet north from the southeast corner of sec. 34, T. 26 N., R 4 E.

A—0 to 2 inches; light brownish gray (2.5Y 6/2) silt loam, grayish brown (2.5Y 5/2) moist; weak fine granular structure; soft, very friable, moderately sticky and moderately plastic; few very fine and fine roots; few fine interstitial pores; strongly effervescent; moderately alkaline; clear smooth boundary.

C1—2 to 19 inches; light brownish gray (2.5Y 6/2) silty clay loam, grayish brown (2.5Y 5/2) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few fine tubular pores; strongly effervescent; moderately alkaline; clear smooth boundary.

C2—19 to 65 inches; grayish brown (10YR 5/2) clay, dark grayish brown (10YR 4/2) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few fine tubular pores; strongly effervescent; moderately alkaline.

Range in Characteristics

A horizon:

Hue: 10YR or 2.5Y

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 to 4

Texture, fine earth fraction: silt loam or clay loam

C horizon:

Hue: 10YR or 2.5Y*Value:* 5 to 7 dry, 4 or 5 moist*Chroma:* 2 to 4*Texture, fine earth fraction:* silty clay, silty clay loam, clay, or clay loam

Note: Rock fragments in the profile range from 0 to 15 percent gravel.

San Mateo Series*Map units:* 10, 30*Depth class:* very deep*Drainage class:* well drained*Slowest permeability:* 0.2 to 0.6 in./hr. (moderately slow)*Landform:* flood plains*Parent material:* stream alluvium derived from sandstone and shale*Elevation:* 6,000 to 6,900 feet (1,829 to 2,103 meters)*Slope:* 0 to 3 percent*Climatic data:**Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 48 to 50 degrees F. (8.9 to 10.0 degrees C.)*Frost-free period:* 120 to 140 days*Taxonomic class:* Fine-loamy, mixed, calcareous, mesic Ustic Torrifuvents**Typical Pedon**

San Mateo sandy loam, in an area of map unit 30, San Mateo sandy loam, 0 to 3 percent slopes; 2 miles southeast of Navajo City; 2,345 feet south and 1,980 feet west of the northeast corner of sec. 9, T. 29 N., R. 7 W.

- A—0 to 3 inches; brown (10YR 5/3) sandy loam, dark grayish brown (10YR 4/2) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; few fine interstitial pores; slightly effervescent; moderately alkaline; clear smooth boundary.
- C1—3 to 8 inches; pale brown (10YR 6/3) fine sandy loam, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; few fine roots; few fine vesicular pores; slightly effervescent; moderately alkaline; clear smooth boundary.
- C2—8 to 11 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; few fine roots; few very fine and fine vesicular pores; slightly effervescent; moderately alkaline; clear smooth boundary.
- C3—11 to 15 inches; pale brown (10YR 6/3) fine sandy loam, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; few fine roots; few very fine and fine vesicular pores; slightly effervescent; moderately alkaline; clear smooth boundary.
- C4—15 to 40 inches; brown (10YR 5/3) clay loam, dark grayish brown (10YR 4/2) moist; massive; slightly hard, friable, moderately sticky and moderately plastic; few very fine roots; few very fine and fine tubular pores; slightly effervescent; moderately alkaline; clear smooth boundary.
- C5—40 to 46 inches; pale brown (10YR 5/3) clay loam, dark grayish brown (10YR 4/2) moist; massive; hard, very firm, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; slightly effervescent; moderately alkaline; clear smooth boundary.

C6—46 to 52 inches; pale brown (10YR 6/3) clay loam, brown (10YR 5/3) moist; massive; soft, very friable, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; strongly effervescent; strongly alkaline; clear smooth boundary.

C7—52 to 60 inches; brown (10YR 5/3) clay loam, dark grayish brown (10YR 4/2) moist; slightly hard, firm, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; strongly effervescent; strongly alkaline.

Range in Characteristics

Salinity: EC of 4 to 8 mmhos/cm

Reaction: slightly alkaline to strongly alkaline

A horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 to 4

Texture, fine earth fraction: sandy loam or silty clay loam

C horizon:

Value: 5 or 6 dry and 4 or 5 moist

Texture, fine earth fraction: clay loam or sandy clay loam

Note: Strata of coarser textures may occur above or below the control section or as thin lenses within it. These lenses typically are sandy loam or fine sandy loam.

Saragote Series

Map unit: 215

Depth class: very deep

Drainage class: somewhat poorly drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: mountain slopes

Parent material: slope alluvium derived from mixed igneous material

Elevation: 9,500 to 11,400 feet (2,896 to 3,475 meters)

Slope: 2 to 5 percent

Climatic data:

Mean annual precipitation: 28 to 35 inches (711 to 889 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Taxonomic class: Clayey-skeletal, mixed Argiaquic Cryoborolls

Typical Pedon

Saragote loam, in an area of map unit 215, Saragote-Ess complex, 2 to 8 percent slopes; about 11 miles east of Tierra Amarilla, New Mexico; New Mexico state plane coordinates 2,077,622 north and 467,958 east. NAD 83, UTM 13 — 40 63 548 N; 03 78 540 E.

Oi—0 to 1 inch; pine needles

A—1 inch to 9 inches; very dark gray (10YR 3/1) loam, black (10YR 2/1) moist; few fine distinct strong brown (7.5YR 5/8) mottles; moderate coarse granular structure; slightly hard, friable, moderately sticky and slightly plastic; common medium, many fine and very fine roots; common fine interstitial pores; 5 percent cobbles; moderately acid; clear wavy boundary.

- Bt1—9 to 15 inches; grayish brown (10YR 5/2) very cobbly clay loam, very dark grayish brown (10YR 3/2) moist; few fine distinct strong brown (7.5YR 5/8) mottles; strong fine subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; common medium, many fine and very fine roots; common fine and few very fine tubular pores; few thin clay films on faces of peds and in pores; 10 percent gravel, 25 percent cobbles; moderately acid; clear wavy boundary.
- Bt2—15 to 33 inches; pinkish gray (7.5YR 6/2) very cobbly clay, brown (7.5YR 5/2) moist; common large distinct strong brown (7.5YR 5/8) mottles; moderate medium subangular blocky structure; very hard, firm, very sticky and very plastic; few medium, common fine and few very fine roots; common fine and few very fine tubular pores; many moderately thick clay films on faces of peds and in pores; 10 percent gravel and 30 percent cobbles; moderately acid; gradual wavy boundary.
- C—33 to 60 inches; light brown (7.5YR 6/4) very cobbly clay, brown (7.5YR 5/4) moist; common large distinct strong brown (7.5YR 5/8) mottles; massive; very hard, firm, very sticky and very plastic; few medium, fine and very fine roots; few fine tubular pores; 10 percent gravel and 30 percent cobbles; moderately acid.

Range in Characteristics

A horizon:

Value: 3 or 4 dry, 2 or 3 moist

Chroma: 1 or 2

Rock fragments: 0 to 10 percent cobbles

Bt horizon:

Value: 5 or 6 dry, 3 to 5 moist

Rock fragments: 10 to 15 percent gravel and 25 to 40 percent cobbles

C horizon:

Rock fragments: 10 to 15 percent gravel and 25 to 40 percent cobbles

Note: A water table is present within 2 to 3.5 feet of the surface.

Scholle Series

Map unit: 244

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: stream terraces

Parent material: stream alluvium derived from mixed sources

Elevation: 6,000 to 6,800 feet (1,829 to 2,073 meters)

Slope: 1 to 5 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Fine-loamy, mixed, mesic Ustollic Haplargids

Typical Pedon

Scholle loam, in an area of map unit 244, Scholle-Silver loams, 1 to 5 percent slopes; about 2.8 miles due east of Forest Service boundary-Rio Chama junction; New Mexico state plane coordinates 1,929,000 feet north and 421,000 feet east. NAD 83, UTM 13 — 40 18 441 N; 03 63 641 E.

- A—0 to 3 inches; brown (7.5YR 5/4) loam, brown (7.5YR 4/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine and many fine roots; few very fine interstitial pores; 5 percent gravel; slightly effervescent; moderately alkaline; abrupt smooth boundary.
- BA—3 to 7 inches; brown (7.5YR 5/4) loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine and many very fine roots; few very fine and fine tubular pores; 5 percent gravel; slightly effervescent; slightly alkaline; clear smooth boundary.
- Btk1—7 to 17 inches; light brown (7.5YR 6/4) sandy clay loam, brown (7.5YR 4/4) moist; strong medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine and many fine roots; few very fine and fine irregular pores; common thin clay films on faces of peds and in pores; strongly effervescent; few fine irregular and rounded masses of calcium carbonates; 10 percent gravel; moderately alkaline; clear smooth boundary.
- Btk2—17 to 24 inches; light brown (7.5YR 6/4) gravelly clay loam, brown (7.5YR 5/4) moist; weak medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; many very fine and fine roots; few very fine and fine irregular pores; common thin clay films on faces of peds; strongly effervescent; common medium rounded masses of calcium carbonate; 15 percent gravel and 5 percent cobbles; moderately alkaline; clear wavy boundary.
- Bk1—24 to 30 inches; reddish yellow (7.5YR 8/6) gravelly sandy clay loam, reddish yellow (7.5YR 7/6) moist; massive; slightly hard, friable; slightly sticky and slightly plastic; few very fine and fine roots; few very fine discontinuous irregular pores; 20 percent gravel and 10 percent cobbles; violently effervescent; common medium rounded masses of calcium carbonate; moderately alkaline; gradual wavy boundary.
- Bk2—30 to 60 inches; pink (7.5YR 8/4) very gravelly sandy loam, pink (7.5YR 7/4) moist; massive; slightly hard, friable; common fine and very fine roots; few very fine and fine irregular pores; 30 percent gravel and 15 percent cobbles; violently effervescent; disseminated calcium carbonate; moderately alkaline.

Range in Characteristics

A and BA horizons:

Value: 4 or 5 dry and 3 or 4 moist

Rock fragments: 0 to 10 percent gravel

Btk horizon:

Value: 5 or 6 dry and 3 to 5 moist

Rock fragments: 10 to 30 percent gravel and 0 to 5 percent cobbles

Bk horizon:

Value: 7 or 8 dry, 6 or 7 moist

Rock fragments: 20 to 35 percent gravel and 10 to 20 percent cobbles

Sedillo Series

Map units: 170, 190

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: stream terraces

Parent material: stream alluvium derived from mixed sources

Elevation: 6,500 to 7,200 feet (1,981 to 2,195 meters)

Slope: 0 to 5 percent

*Climatic data:**Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 48 to 50 degrees F. (8.9 to 10.0 degrees C.)*Frost-free period:* 120 to 140 days*Taxonomic class:* Loamy-skeletal, mixed, mesic Ustollic Haplargids**Typical Pedon**

Sedillo loam, in an area of map unit 190, Sedillo loam, 0 to 3 percent slopes; about 0.5 mile south of El Rito, New Mexico; New Mexico state plane coordinates 1,941,000 feet north and 518,600 feet east. NAD 83, UTM 13 — 40 21 714 N; 03 93 431 E.

A—0 to 5 inches; brown (7.5YR 5/4) loam, brown (7.5YR 4/4) moist; weak medium platy structure; hard, friable, slightly sticky and slightly plastic; many very fine, common fine and few medium roots; few very fine tubular pores; 5 percent gravel and 5 percent cobbles; moderately alkaline; abrupt smooth boundary.

Bt—5 to 13 inches; brown (7.5YR 5/4) cobbly sandy clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; few medium, common fine and very fine roots; common very fine and few fine vesicular pores; few thin clay films on faces of peds and in pores; 10 percent gravel and 20 percent cobbles; slightly alkaline; clear smooth boundary.

Btk—13 to 25 inches; strong brown (7.5YR 5/6) very cobbly sandy clay loam, strong brown (7.5YR 4/6) moist; moderate medium subangular blocky structure; very hard, firm, moderately sticky and moderately plastic; few medium, common fine and very fine roots; common very fine and few fine vesicular pores; few thin clay films on faces of peds and in pores; 15 percent gravel, 20 percent cobbles and 5 percent stones; strongly effervescent; common rounded masses and seams of segregated calcium carbonate; moderately alkaline; clear wavy boundary.

Bk—25 to 60 inches; pinkish white (7.5YR 8/2) very cobbly sandy loam, pinkish gray (7.5YR 7/2) moist; massive; hard, firm, nonsticky and nonplastic; few very fine and fine roots; few fine tubular pores; 25 percent gravel, 20 percent cobbles and 15 percent stones; violently effervescent; disseminated calcium carbonate; moderately alkaline.

Range in Characteristics

A horizon:

Hue: 10YR or 7.5YR*Value:* 4 or 5 dry*Chroma:* 3 or 4*Rock fragments:* 5 to 10 percent gravel and 5 to 25 percent cobbles

Bt horizon:

Rock fragments: 10 to 20 percent gravel and 20 to 35 percent cobbles

Bk horizon:

Rock fragments: 15 to 25 percent gravel, 20 to 30 percent cobbles, and 5 to 15 percent stones**Silver Series***Map units:* 244, 248*Depth class:* very deep*Drainage class:* well drained*Slowest permeability:* .06 to 0.2 in./hr. (slow)*Landform:* fan remnants and stream terraces

Parent material: fan and stream alluvium derived from sandstone and shale

Elevation: 6,000 to 6,900 feet (1,829 to 2,103 meters)

Slope: 1 to 7 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Fine, mixed, mesic Ustollic Haplargids

Typical Pedon

Silver loam, in an area of map unit 244, Scholle-Silver loams, 1 to 5 percent slopes; about 0.6 mile north and 3 miles east of the junction of the Forest Service boundary and the Rio Chama; New Mexico state plane coordinates 1,932,300 north feet and 423,200 east feet. NAD 83, UTM 13 — 40 19 438 N; 03 64 324 E.

A—0 to 2 inches; yellowish brown (10YR 5/4) loam, dark yellowish brown (10YR 4/4) moist; weak fine granular structure; soft, friable, slightly sticky and slightly plastic; common very fine, fine and few medium roots; few very fine and fine irregular pores; moderately alkaline; abrupt smooth boundary.

Bt—2 to 10 inches; brown (7.5YR 5/4) clay, dark brown (7.5YR 3/4) moist; moderate fine subangular blocky structure; hard, firm, very sticky and very plastic; common very fine, fine and few medium roots; common very fine tubular pores; common thin clay films on faces of peds and in pores; moderately alkaline; clear smooth boundary.

Btk1—10 to 22 inches; light brown (7.5YR 6/4) clay loam, brown (7.5YR 5/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine and fine roots; many very fine tubular pores; common thin clay films on faces of peds and in pores; strongly effervescent; few medium rounded masses of calcium carbonate; 5 percent gravel; moderately alkaline; abrupt smooth boundary.

Btk2—22 to 34 inches; brown (7.5YR 5/4) clay loam, brown (7.5YR 4/4) moist; moderate coarse subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine and few fine roots; common very fine tubular pores; common thin clay films on faces of peds and in pores; strongly effervescent; common large rounded masses of calcium carbonate; 5 percent gravel; moderately alkaline; clear smooth boundary.

Bk—34 to 48 inches; light brown (7.5YR 6/4) sandy clay loam, brown (7.5YR 5/4) moist; massive; hard, firm, moderately sticky and moderately plastic; common very fine and few fine roots; few very fine tubular pores; strongly effervescent; few fine rounded and irregular masses of calcium carbonate; 5 percent gravel; strongly alkaline; clear smooth boundary.

C—48 to 60 inches; light brown (7.5YR 6/4) cobbly sandy clay loam, brown (7.5YR 5/4) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; 5 percent gravel and 20 percent cobbles; strongly effervescent; moderately alkaline.

Range in Characteristics

A horizon:

Hue: 7.5YR or 10YR

Value: 5 or 6 dry and 3 to 5 moist

Texture, fine earth fraction: loam or fine sandy loam

Bt horizon:

Value: 5 or 6 dry, 3 to 6 moist

Chroma: 2 to 4

Texture, fine earth fraction: clay loam or clay

Rock fragments: 0 to 10 percent gravel

Bk horizon:

Value: 5 or 6 dry, 5 or 6 moist

Chroma: 2 to 4

Texture, fine earth fraction: clay loam, sandy clay loam, or clay

Rock fragments: 0 to 10 percent gravel

C horizon:

Value: 5 to 7 dry, 3 to 5 moist

Chroma: 2 to 4

Texture, fine earth fraction: clay loam, clay, and sandy clay loam

Rock fragments: 0 to 5 percent gravel and 10 to 20 percent cobbles

Sparank Series

Map unit: 10

Depth class: very deep

Drainage class: well drained

Slowest permeability: .001 to .06 in./hr. (very slow)

Landform: flood plains

Parent material: stream alluvium derived from sandstone and shale

Elevation: 6,000 to 6,900 feet (1,829 to 2,103 meters)

Slope: 0 to 3 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 50 degrees F. (8.9 to 10.0 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Fine, mixed, calcareous, mesic Ustic Torrifuvents

Typical Pedon

Sparank silt loam, in an area of map unit 10, Sparank-San Mateo silt loams, saline, sodic, 0 to 3 percent slopes; 14.8 miles north of Councilor Trading Post in Largo Canyon, 2,000 feet north and 2,000 feet east of the southwest corner of sec. 16, T. 25 N., R. 6 W.

A—0 to 2 inches; pale brown (10YR 6/3) silt loam, brown (10YR 5/3) moist; weak thin platy structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine interstitial pores; slightly effervescent; strongly alkaline; clear smooth boundary.

2Cn—2 to 60 inches; pale brown (10YR 6/3) clay, brown (10YR 5/3) moist; massive; very hard, very firm, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; slightly effervescent; very strongly alkaline.

Range in Characteristics

Salinity: EC of 4 to 8 mmhos/cm

Sodicity: SAR of 13 to 30

Sparham Series

Map units: 60, 70

Depth class: very deep

Drainage class: well drained

Slowest permeability: .001 to .06 in./hr. (very slow)

Landform: flood plains and stream terraces

Parent material: stream alluvium derived from shale

Elevation: 5,500 to 7,200 feet (1,676 to 2,195 meters)

Slope: 0 to 3 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 50 degrees F. (7.2 to 10.0 degrees C.)

Frost-free period: 100 to 140 days

Taxonomic class: Fine, mixed, calcareous, mesic Typic Ustifluvents

Typical Pedon

Sparham clay loam, in an area of map unit 70, Sparham clay loam, saline, sodic, 0 to 3 percent slopes; about 3.3 miles south and 0.7 mile east of Llaves, Rio Arriba County, New Mexico; 2,550 feet south and 1,530 feet west of the northeast corner of sec. 8, T. 24. N., R. 1 E.

A—0 to 2 inches; light yellowish brown (10YR 6/4) clay loam, yellowish brown (10YR 5/4) moist; weak fine granular structure; very hard, fine, moderately sticky and moderately plastic; few very fine roots; few very fine interstitial pores; slightly effervescent; strongly alkaline; abrupt smooth boundary.

C1—2 to 25 inches; light yellowish brown (10YR 6/4) clay, yellowish brown (10YR 5/4) moist; massive; very hard, very firm, very sticky and very plastic; common very fine roots; common very fine tubular pores; slightly effervescent; strongly alkaline; clear smooth boundary.

C2—25 to 35 inches; pale yellow (2.5Y 7/4) clay loam, light olive brown (2.5Y 5/4) moist; massive; hard, firm, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; slightly alkaline; gradual smooth boundary.

C3—35 to 60 inches; light gray (2.5Y 7/2) clay, light yellowish brown (2.5Y 6/4) moist; massive; very hard, very firm, very sticky and very plastic; few very fine roots; few very fine tubular pores; slightly effervescent; strongly alkaline.

Range in Characteristics

Salinity: EC of 2 to 20 mmhos/cm

Sodicity: SAR of 5 to 30

A horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

Texture, fine earth fraction: clay loam or silty clay loam

C horizon:

Hue: 10YR or 2.5Y

Value: 5 to 7 dry, 4 to 6 moist

Chroma: 2 to 4

Texture, fine earth fraction: clay loam, clay, silty clay, or silty clay loam. Stratified layers of sandy clay or sandy loam also are present below 40 inches.

Note: Rock fragments in the profile range from 0 to 15 percent gravel.

Stout Series

Map units: 50, 132

Depth class: shallow

Drainage class: well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Landform: hills

Parent material: slope alluvium and residuum derived from sandstone

Elevation: 7,200 to 8,300 feet (2,195 to 2,530 meters)

Slope: 5 to 20 percent

Climatic data:

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Loamy, mixed, nonacid, frigid Lithic Ustorthents

Typical Pedon

Stout sandy loam, in an area of map unit 50, Stout-Kunz sandy loams, 5 to 15 percent slopes; 9.3 miles north and 1.6 miles east of Lindrith; 2,150 feet north and 1,800 feet west of the southeast corner of sec. 35, T. 26 N., R. 2 W.

Oi—0 to 2 inches; pine needles

A—2 to 5 inches; brown (7.5YR 4/4) sandy loam, dark brown (7.5YR 3/4) moist; weak fine granular structure; slightly hard, friable, moderately sticky and moderately plastic; few fine roots; few fine interstitial pores; neutral; abrupt smooth boundary.

C—5 to 11 inches; brown (7.5YR 5/4) sandy loam, dark brown (7.5YR 3/4) moist; massive; hard, friable, moderately sticky and moderately plastic; few fine and medium roots; few very fine and common fine vesicular pores; 10 percent channers; neutral; abrupt smooth boundary.

Cr—11 to 14 inches; soft sandstone.

R—14 inches; sandstone.

Range in Characteristics

A horizon:

Value: 4 to 6 dry, 3 to 4 moist

Chroma: 2 to 4

Texture, fine earth fraction: sandy loam or loam

Rock fragments: Sandstone channers on the surface range from 0 to 10 percent and flagstones from 0 to 20 percent

C horizon:

Texture, fine earth fraction: sandy loam or loam

Rock fragments: 0 to 15 percent sandstone channers

Depth to lithic contact: 10 to 20 inches

Suposo Series

Map unit: 228

Depth class: very deep

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: stream terraces

Parent material: stream alluvium derived from shale

Elevation: 6,900 to 7,400 feet (2,103 to 2,256 meters)

Slope: 1 to 6 percent

Climatic data:

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Fine, mixed Pachic Argiborolls

Typical Pedon

Suposo clay loam, in an area of map unit 228, Suposo-Brycan complex, 1 to 6 percent slopes; about 2 miles north of Lumberton; New Mexico state plane coordinates 2,168,928 feet north and 300,200 feet east. NAD 83, UTM 13 — 40 92 044 N; 03 27 778 E.

A—0 to 4 inches; dark grayish brown (10YR 4/2) clay loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; soft, very friable, moderately sticky and moderately plastic; common very fine, fine and few medium roots; few fine tubular pores; neutral; clear smooth boundary.

Bt—4 to 16 inches; grayish brown (10YR 5/2) clay, very dark grayish brown (10YR 3/2) moist; moderate fine angular blocky structure; hard, firm, moderately sticky and moderately plastic; many very fine, fine and common medium roots; few thin clay films on faces of peds; neutral; clear smooth boundary.

Btk—16 to 31 inches; dark grayish brown (10YR 4/2) clay, very dark grayish brown (10YR 3/2) moist; moderate medium prismatic structure; very hard, very firm, very sticky and very plastic; common very fine, few fine and medium roots; few thin clay films on faces of peds; strongly effervescent; thin filaments and threads of segregated calcium carbonate; slightly alkaline; clear smooth boundary.

BCK—31 to 60 inches; brown (10YR 5/2) clay, dark brown (10YR 3/2) moist; weak medium prismatic structure; very hard, very firm, very sticky and very plastic; few very fine, fine and medium roots; strongly effervescent; thin filaments and threads of segregated calcium carbonate; slightly alkaline.

Range in Characteristics

A horizon:

Hue: 10YR or 2.5Y

Value: 4 or 5 dry, 1 to 3 moist

Chroma: 2 or 3

Bt horizon:

Hue: 10YR or 2.5Y

Value: 3 to 5 dry, 1 or 3 moist

Chroma: 2 or 3

Btk and BCK horizons (includes a Bk in some pedons):

Hue: 10YR or 2.5Y

Value: 4 through 6 dry, 3 through 5 moist

Chroma: 2 or 3

Texture, fine earth fraction: clay or clay loam

Teromote Series

Map unit: 113

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: alluvial fans

Parent material: fan alluvium derived from shale

Elevation: 7,100 to 7,400 feet (2,164 to 2,256 meters)

Slope: 2 to 8 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Fine-loamy, mixed, mesic Aridic Ustochrepts

Typical Pedon

Teromote loam, in an area of map unit 113, Teromote-Ruson association, 1 to 8 percent slopes; about 0.6 mile south and 6 miles west of Cebolla, New Mexico; 1,198 feet north and 1,407 feet west of the southeast corner of sec. 33, T. 27 N., R. 3E.

A—0 to 2 inches; brown (10YR 5/3) loam, brown (10YR 4/3) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; few very fine and fine interstitial pores; strongly effervescent; slightly alkaline; clear smooth boundary.

Bw—2 to 12 inches; brown (10YR 5/3) loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine and fine tubular pores; violently effervescent; slightly alkaline; clear smooth boundary.

Bk—12 to 65 inches; light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine and fine tubular pores; violently effervescent, few fine calcium carbonate masses; moderately alkaline.

Range in Characteristics

A horizon:

Value: 4 to 6 dry, 4 or 5 moist

Chroma: 3 or 4

Bw horizon:

Hue: 10YR or 2.5Y

Value: 4 to 7 dry, 4 or 5 moist

Chroma: 2 to 4

Texture, fine earth fraction: loam, clay loam, or sandy clay loam

Bk horizon:

Hue: 10YR or 2.5Y

Value: 4 to 7 dry, 4 or 5 moist

Chroma: 2 to 4

Texture, fine earth fraction: loam, silty clay loam, or clay loam

C horizon (present in some pedons):

Hue: 10YR or 2.5Y

Value: 4 to 7 dry or moist

Chroma: 2 to 4 dry or moist

Texture, fine earth fraction: fine sandy loam or clay loam

Tinaja Series

Map unit: 242

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Landform: escarpments

Parent material: colluvium derived from sandstone

Elevation: 5,800 to 7,800 feet (1,768 to 2,377 meters)

Slope: 45 to 75 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Loamy-skeletal, mixed, mesic Aridic Ustochrepts

Typical Pedon

Tinaja extremely gravelly loam, in an area of map unit 242, Tinaja-Rock outcrop complex, 45 to 75 percent slopes; about 1.7 miles south and 0.3 mile west of Abiquiu, New Mexico; New Mexico state plane coordinates 1,885,660 feet north and 477,600 feet east. NAD 83, UTM 13 — 40 05 011 N; 03 80 719 E.

A—0 to 4 inches; brown (7.5YR 5/4) extremely gravelly loam, brown (7.5YR 4/4) moist; weak fine granular structure; soft, very friable, slightly sticky and slightly plastic; common fine and very fine roots; few very fine interstitial pores; 40 percent gravel, 20 percent cobbles, and 10 percent stones; slightly alkaline; clear smooth boundary.

Bk1—4 to 43 inches; light brown (7.5YR 6/4) very cobbly sandy clay loam, brown (7.5YR 5/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few medium, common fine and very fine roots; few very fine tubular pores; 20 percent gravel, 20 percent cobbles and 5 percent stone; strongly effervescent; thin calcium carbonate coatings on bottom of gravel, cobbles and stones; slightly alkaline; clear smooth boundary.

2Bk2—43 to 60 inches; light brown (7.5YR 6/4) sandy loam, brown (7.5YR 5/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common fine, few medium and very fine roots; few very fine tubular pores; 10 percent gravel; strongly effervescent; thin calcium carbonate coatings on bottom of gravel; slightly alkaline.

Range in Characteristics

A horizon:

Rock fragments: 40 to 50 percent gravel, 10 to 20 percent cobbles, and 10 to 15 percent stones

Bk horizon:

Rock fragments: 20 to 25 percent gravel, 20 to 30 percent cobbles, and 5 to 10 percent stones

2Bk horizon:

Rock fragments: 0 to 10 percent gravel

Topetaul Series

Map unit: 130

Depth class: very deep

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: cuestras

Parent material: slope alluvium and colluvium derived from shale

Elevation: 7,500 to 8,200 feet (2,286 to 2,499 meters)

Slope: 3 to 25 percent

Climatic data:

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Clayey-skeletal, mixed Mollic Eutroboralfs

Typical Pedon

Topetaul cobbly silt loam, in an area of map unit 130, Topetaul-Hogg complex, 3 to 25 percent slopes; about 3 miles northeast of Cebolla, New Mexico; 1,930 feet west and 1,760 feet south of northeast corner of Section 13, T.27N., R.4E.

A—0 to 6 inches; dark grayish brown (10YR 4/2) cobbly silt loam, very dark brown (10YR 2/2) moist; moderate medium granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine, coarse, and few medium roots; few very fine and common fine vesicular pores; 10 percent gravel and 15 percent cobbles; neutral; abrupt wavy boundary.

BA—6 to 13 inches; light brown (7.5YR 6/4) very cobbly silt loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common fine, medium and coarse and many very fine roots; few very fine and common fine tubular pores; 20 percent gravel and 30 percent cobbles; slightly acid; abrupt irregular boundary.

2Bt1—13 to 28 inches; strong brown (7.5YR 5/6) very gravelly clay, strong brown (7.5YR 4/6) moist; strong fine and medium subangular blocky structure; very hard, firm, very sticky and moderately plastic; common very fine, medium and many fine roots; few very fine and common fine tubular pores; common thick clay films on faces of peds; 40 percent gravel and 20 percent cobbles; slightly acid; clear wavy boundary.

2Bt2—28 to 45 inches; strong brown (7.5YR 4/6) extremely cobbly clay, strong brown (7.5YR 4/6) moist; strong fine subangular blocky structure; extremely hard, firm, very sticky and very plastic; few very fine, medium and common fine roots; few very fine and common fine tubular pores; common moderately thick clay films on faces of peds; 30 percent gravel and 35 percent cobbles; slightly acid; gradual wavy boundary.

2Bt3—45 to 60 inches; reddish yellow (7.5YR 6/6) extremely cobbly clay, strong brown (7.5YR 5/6) moist; moderate fine subangular blocky structure; extremely hard, firm, very sticky and very plastic; few fine and very fine roots; few very fine tubular pores; common thin clay films on faces of peds; 25 percent gravel and 40 percent cobbles; slightly acid.

Range in Characteristics

A horizon:

Hue: 7.5YR or 10YR

Value: 4 or 5 dry, 2 to 4 moist

Chroma: 2 or 3

Rock fragments: 0 to 10 percent gravel and 15 to 25 percent cobbles

BA horizon:

Hue: 7.5YR or 10YR

Value: 4 to 6 dry, 3 or 4 moist

Chroma: 2 to 4

Rock fragments: 10 to 25 percent gravel and 25 to 35 percent cobbles

Bt horizon:*Value:* 4 to 6 dry, 3 to 6 moist*Chroma:* 4 or 6*Rock fragments:* 25 to 45 percent gravel and 5 to 45 percent cobbles**Totavi Series***Map unit:* 407*Depth class:* very deep*Drainage class:* well drained*Slowest permeability:* 0.6 to 2.0 in./hr. (moderate)*Landform:* summits of mesas*Parent material:* slope alluvium derived from tuff*Elevation:* 6,800 to 8,000 feet (2,073 to 2,438 meters)*Slope:* 1 to 8 percent*Climatic data:**Mean annual precipitation:* 13 to 16 inches (330 to 406 millimeters)*Mean annual air temperature:* 45 to 49 degrees F. (7.2 to 9.4 degrees C.)*Frost-free period:* 100 to 130 days*Taxonomic class:* Ashy, frigid Typic Ustivitrands**Typical Pedon**

Totavi gravelly loam, in an area of map unit 407, Totavi gravelly loam, 1 to 8 percent slopes; about 0.5 mile north and 1.25 miles west of the entrance to Puye cliffs; New Mexico state plane coordinates 1,810,300 feet north and 499,000 feet east. NAD 83, UTM 13 — 39 81 962 N; 03 86 945 E.

Oi—0 to 3 inches; pine needles

A—3 to 6 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable, slightly sticky and nonplastic; few very fine and fine roots; many very fine and common fine vesicular pores; 15 percent pumice gravel; slightly acid; clear smooth boundary.

Bw—6 to 28 inches; grayish brown (10YR 5/2) sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common fine and medium, few very fine and coarse roots; many very fine and few fine vesicular pores; 10 percent pumice gravel; neutral; gradual smooth boundary.

C1—28 to 49 inches; light brownish gray (10YR 6/2) gravelly sandy loam, dark grayish brown (10YR 4/2) moist; massive; slightly hard, friable, slightly sticky and nonplastic; few very fine, fine and medium roots; many very fine and few fine vesicular pores; 20 percent pumice gravel; neutral; gradual smooth boundary.

C2—49 to 60 inches; light gray (10YR 7/2) gravelly loamy sand, brown (10YR 4/3) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine and fine roots; many very fine and few roots; fine vesicular pores; 20 percent pumice gravel; neutral.

Range in Characteristics**Bw and C horizons:***Value:* 5 or 7 dry, 3 or 5 moist*Chroma:* 2 to 4*Texture, fine earth fraction:* sandy loam or loamy sand that consist of 60 percent or more sand-sized volcanic material*Rock fragments:* 5 to 20 percent pumice gravel

Tottles Series

Map unit: 129

Depth class: very deep

Drainage class: poorly drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: stream terraces

Parent material: stream alluvium derived from shale

Elevation: 7,400 to 8,000 feet (2,256 to 2,438 meters)

Slope: 0 to 2 percent

Climatic data:

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Fine, mixed, calcareous, frigid Cumulic Haplaquolls

Typical Pedon

Tottles clay loam, in an area of map unit 129, Nusmag-Tottles clay loams, 0 to 3 percent slopes; about 8.3 miles west and 2.0 miles south of Chama on the Humphries Wildlife Area, New Mexico; New Mexico state plane coordinates 2,134,200 feet north and 359,370 feet east. NAD 83, UTM 13 — 40 81 223 N; 03 45 673 E.

A1—0 to 6 inches; dark gray (10YR 3/1) clay loam, very dark gray (10YR 3/1) moist; moderate fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; strongly effervescent; moderately alkaline; clear smooth boundary.

A2—6 to 21 inches; dark gray (10YR 4/1) clay, black (10YR 2/1) moist; few fine distinct yellowish brown (10YR 5/6) mottles; moderate medium prismatic structure parting to moderate medium subangular blocky; hard, firm, moderately sticky and moderately plastic; few very fine and fine roots; few fine tubular pores; strongly effervescent; moderately alkaline; clear smooth boundary.

A3—21 to 36 inches; black (N 2/0) clay, black (N 2/0) moist; few fine distinct yellowish brown (10YR 5/6) mottles; weak subangular blocky structure; hard, very firm, moderately sticky and moderately plastic; few very fine and fine roots; few fine tubular pores; strongly effervescent; moderately alkaline; clear smooth boundary.

Cg1—36 to 54 inches; black (N 4/1) clay, black (N 4/1) moist; common to many medium distinct yellowish brown (10YR 5/8) mottles; massive; very hard, very firm, moderately sticky and moderately plastic; few very fine and fine roots; few fine tubular pores; strongly effervescent; moderately alkaline; clear smooth boundary.

Cg2—54 to 60 inches; dark gray (10YR 4/1) clay, dark gray (10YR 4/1) moist; common medium distinct yellowish brown (10YR 5/8) mottles; massive; very hard, very firm, moderately sticky and moderately plastic; few very fine and fine roots; few very fine tubular pores; strongly effervescent; moderately alkaline.

Range in Characteristics

A horizon:

Value: 3 or 4 dry, 2 or 3 moist

Chroma: 1 or 2

Cg horizon:

Value: 2 to 5 dry, 2 or 4 moist

Chroma: 0 to 2

Note: A water table may occur, saturated at or near the surface for at least one month during most years, mainly during early spring. In late summer the water table drops to a depth of 12 to 36 inches.

Vamer Series

Map units: 141, 214

Depth class: shallow

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: breaks and hills

Parent material: slope alluvium and colluvium derived from sandstone and shale

Elevation: 6,900 to 7,500 feet (2,103 to 2,286 meters)

Slope: 10 to 35 percent

Climatic data:

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Clayey, mixed Lithic Eutroboralfs

Typical Pedon

Vamer very channery clay loam, in an area of map unit 214, Quimera-Vamer very channery clay loams, 10 to 35 percent slopes; about 4.3 miles north of Lumberton, New Mexico on the Edith road; 2605 feet east and 521 feet north of the southwest corner of Section 28, T.32N, R.1W.

A—0 to 3 inches; grayish brown (10YR 5/2) very channery clay loam, dark grayish brown (10YR 4/2) moist; moderate medium granular structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine and fine interstitial pores; 40 percent sandstone channers; neutral; clear smooth boundary.

Bt1—3 to 8 inches; brown (10YR 5/3) clay, brown (10YR 4/3) moist; moderate medium subangular blocky structure; very hard, very firm, very sticky and very plastic, common very fine and fine roots; common very fine and fine tubular pores; few thin clay films on faces of peds; neutral; clear smooth boundary.

Bt2—8 to 19 inches; brown (10YR 5/3) clay, brown (10YR 4/3) moist; weak medium subangular blocky structure; very hard, very firm, very sticky and very plastic; few very fine and fine roots; few very fine and fine tubular pores; few thin clay films on faces of peds; strongly effervescent; neutral; clear smooth boundary.

R—19 inches; shale and sandstone bedrock.

Range in Characteristics

A horizon:

Value: 5 or 6 dry, 3 or 4 moist

Chroma: 2 to 4

Texture, fine earth fraction: clay loam or loam

Rock fragments: 0 to 60 percent channers

Bt horizons:

Value: 4 or 5 dry or moist

Chroma: 2 to 4

Texture, fine earth fraction: clay, clay loam, and silty clay loam

Depth to a lithic contact: 10 to 20 inches

Rock fragments: 0 to 15 percent channers

Vessilla Series

Map units: 20, 40, 110, 220

Depth class: shallow

Drainage class: well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Landform: breaks, hills and mesas

Parent material: slope alluvium over residuum derived from sandstone

Elevation: 6,100 to 7,800 feet (1,859 to 2,377 meters)

Slope: 1 to 45 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Loamy, mixed, calcareous, mesic Lithic Ustorthents

Typical Pedon

Vessilla sandy loam, in an area of map unit 110, Vessilla-Menefee-Orlie complex, 1 to 30 percent slopes; 2 miles northwest of Lybrook, New Mexico; 2,084 feet south, 521 feet east of the northwest corner of Sec. 1, T. 23 N., R. 7W.

A—0 to 1 inch; pale brown (10YR 6/3) sandy loam, brown (10YR 5/3) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; few fine interstitial pores; slightly effervescent; moderately alkaline; clear smooth boundary.

C1—1 inch to 5 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; few very fine and fine vesicular pores; slightly effervescent; moderately alkaline; clear smooth boundary.

C2—5 to 15 inches; brown (10YR 6/3) sandy loam, brown (10YR 5/3) moist; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; few very fine vesicular pores; slightly effervescent; moderately alkaline; abrupt smooth boundary.

R—15 inches; sandstone bedrock.

Range in Characteristics

A horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

Texture, fine earth fraction: fine sandy loam or sandy loam

C horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

Texture, fine earth fraction: fine sandy loam or sandy loam

Depth to sandstone bedrock: 10 to 20 inches

Walrees Series

Map unit: 42

Depth class: very deep

Drainage class: somewhat poorly drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: swales

Parent material: stream alluvium derived from cobbly material, sandstone and shale

Elevation: 5,500 to 6,000 feet (1,676 to 1,829 meters)

Slope: 0 to 2 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 50 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Fine-loamy over sandy or sandy-skeletal, mixed, calcareous, mesic
Aquic Ustifluvents

Typical Pedon

Walrees clay loam, in an area of map unit 42, Walrees-Abiquiu complex, 0 to 2 percent slopes; about 1 mile north and 0.1 mile west of Fairview, New Mexico; New Mexico state plane coordinates 1,827,600 feet north and 5,530,000 feet east. NAD 83, UTM 13 — 39 87 113 N; 03 96 459 E.

A—0 to 4 inches; brown (10YR 5/3) clay loam, brown (10YR 4/3) moist; weak medium platy structure parting to weak fine granular; very hard, firm, moderately sticky and moderately plastic; common very fine, fine and medium roots, few fine and medium interstitial pores; strongly effervescent; moderately alkaline clear smooth boundary.

C1—4 to 23 inches; grayish brown (10YR 5/2) silty clay loam, dark grayish brown (10YR 4/2) moist; few fine distinct strong brown (7.5YR 5/6) mottles; massive; very hard, firm, moderately sticky and moderately plastic; common very fine, fine and medium roots; few fine tubular pores; strongly effervescent; moderately alkaline; clear smooth boundary.

2C2—23 to 28 inches; grayish brown (10YR 5/2) sand, dark grayish brown (10YR 4/2) moist; few fine distinct strong brown (7.5YR 5/6) mottles; massive; loose, nonsticky and nonplastic; common very fine and fine roots; strongly effervescent; moderately alkaline; abrupt smooth boundary.

2C3—28 to 60 inches; stratified sands, gravel and cobbles.

Range in Characteristics

Note: A seasonal high water table may occur at a depth of 25 to 40 inches during the spring runoff period of April through June, and floods occasionally.

A horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 or 3

C and 2C horizons:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 2 or 3

Note: Depth to the 2C horizons range from 20 to 40 inches.

Wauquie Series

Map unit: 140

Depth class: very deep

Drainage class: well drained

Slowest permeability: 0.6 to 2.0 in./hr. (moderate)

Landform: escarpments

Parent material: slope alluvium derived from shale over colluvium derived from granite

Elevation: 6,000 to 7,000 feet (1,829 to 2,134 meters)

Slope: 35 to 60 percent

Climatic data:

Mean annual precipitation: 13 to 16 inches (330 to 406 millimeters)

Mean annual air temperature: 45 to 49 degrees F. (7.2 to 9.4 degrees C.)

Frost-free period: 100 to 130 days

Taxonomic class: Loamy-skeletal, mixed, mesic Aridic Haplustalfs

Typical Pedon

Wauquie very gravelly loam, in an area of map unit 140, Espiritu-Wauquie association, 35 to 60 percent slopes; 3 miles south and 0.5 mile east of Chili, New Mexico; New Mexico state plane coordinates 1,839,100 feet north and 532,800 east. NAD 83, UTM 13 — 39 90 606 N; 03 97 358 E.

- A—0 to 3 inches; brown (7.5YR 4/4) very gravelly loam, dark brown (7.5YR 3/2) moist; weak medium granular structure; soft, very friable, slightly sticky and slightly plastic; few fine and many medium and coarse roots; common very fine interstitial pores; 40 percent gravel, 10 percent cobbles and 5 percent stones; neutral; abrupt smooth boundary.
- Bt1—3 to 13 inches; brown (7.5YR 4/4) very gravelly sandy clay loam, dark brown (7.5YR 3/2) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; many very fine, common fine, medium and coarse roots; common very fine tubular pores; common thin clay films on faces of peds and in pores; 40 percent gravel, 10 percent cobbles and 5 percent stones; slightly alkaline; clear smooth boundary.
- Bt2—13 to 19 inches; brown (7.5YR 5/4) extremely cobbly sandy clay loam, brown (7.5YR 4/4) moist; weak medium subangular blocky structure; hard, firm, slightly sticky and slightly plastic; common fine, medium and few coarse roots; common very fine and fine tubular pores; common thin clay films on faces of peds; 30 percent gravel, 25 percent cobbles and 5 percent stones; slightly alkaline; clear smooth boundary.
- Bk1—19 to 42 inches; light brown (7.5YR 6/4) very cobbly loam, brown (7.5YR 5/4) moist; massive; slightly hard, firm, slightly sticky and slightly plastic; few very fine, common fine and few medium roots; few very fine and fine tubular pores; 25 percent gravel, 25 percent cobbles and 5 percent stones; slightly effervescent, few calcium carbonate coatings on undersides of gravel, cobbles and stones; slightly alkaline; gradual smooth boundary.
- Bk2—42 to 60 inches; pink (7.5YR 7/4) very cobbly sandy loam, light brown (7.5YR 6/4) moist; massive; slightly hard, firm, nonsticky and nonplastic; few fine and medium roots; few very fine continuous tubular pores; 20 percent gravel, 30 percent cobbles and 5 percent stones; effervescent, few masses and common calcium carbonate coatings on undersides of gravel, cobbles and stones; moderately alkaline.

Range in Characteristics

A horizon:

Value: 4 or 5 dry, 3 or 4 moist

Chroma: 2 to 4

Rock fragments: 35 to 45 percent gravel, 5 to 10 percent cobbles, and 0 to 5 percent stones

Bt horizon:*Value:* 4 or 5 dry, 3 or 4 moist*Chroma:* 2 to 4*Rock fragments:* 20 to 45 percent gravel, 10 to 30 percent cobbles, and 0 to 5 percent stones**Bk horizon:***Value:* 5 to 7 dry, 4 to 6 moist*Chroma:* 4 or 5*Rock fragments:* 20 to 30 percent gravel, 20 to 30 percent cobbles, and 0 to 5 percent stones**Wenota Series***Map unit:* 247*Depth class:* very deep*Drainage class:* well drained*Slowest permeability:* .06 to 0.2 in./hr. (slow)*Landform:* flood plains*Parent material:* stream alluvium derived from sandstone and shale*Elevation:* 6,000 to 6,800 feet (1,829 to 2,073 meters)*Slope:* 1 to 6 percent*Climatic data:**Mean annual precipitation:* 10 to 13 inches (254 to 330 millimeters)*Mean annual air temperature:* 48 to 50 degrees F. (8.9 to 10.0 degrees C.)*Frost-free period:* 120 to 140 days*Taxonomic class:* Fine, mixed, calcareous, mesic Ustic Torrifuvents**Typical Pedon**

Wenota silty clay loam, in an area of map unit 247, Wenota silty clay loam, 1 to 6 percent slopes; about 1.5 miles west and 0.4 mile south of Ghost Ranch Visitor Center, New Mexico; New Mexico state plane coordinates 1,934,200 feet north and 416,700 feet east. NAD 83, UTM 13 — 40 20 043 N; 03 62 351 E.

A—0 to 8 inches; light reddish brown (5YR 6/4) silty clay loam, reddish brown (5YR 5/4) moist; weak medium platy and moderate coarse granular structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine, fine and few medium roots; few very fine and fine tubular pores; strongly effervescent; moderately alkaline; abrupt wavy boundary.

C1—8 to 16 inches; yellowish red (5YR 5/6) clay, reddish brown (5YR 5/4) moist; massive; hard, firm, very sticky and very plastic; common very fine, fine and medium roots; common very fine tubular pores; strongly effervescent; moderately alkaline; abrupt smooth boundary.

C2—16 to 24 inches; yellowish red (5YR 5/6) clay, yellowish red (5YR 4/6) moist; moderate medium platy structure; hard, firm, very sticky and very plastic; common very fine and fine roots; few very fine tubular pores; few thin strata of sands; strongly effervescent; moderately alkaline; abrupt smooth boundary.

Ck—24 to 60 inches; yellowish red (5YR 5/6) clay, reddish brown (5YR 4/4) moist; massive; very hard, very firm, very sticky and very plastic; few very fine and fine roots; few very fine tubular pores; strongly effervescent, very few very fine irregular calcium carbonate masses; moderately alkaline.

Range in Characteristics

A horizon:

Hue: 7.5YR or 5YR

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 4 to 6

C horizon:

Hue: 7.5YR or 5YR

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 4 to 6

Note: Strata of fine sands are common in the C horizon.

Werlog Series

Map unit: 21

Depth class: very deep

Drainage class: somewhat poorly drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: flood plains

Parent material: stream alluvium derived from sandstone and shale

Elevation: 5,500 to 6,000 feet (1,676 to 1,829 meters)

Slope: 0 to 1 percent

Climatic data:

Mean annual precipitation: 8 to 10 inches (203 to 254 millimeters)

Mean annual air temperature: 50 to 52 degrees F. (10.0 to 11.1 degrees C.)

Frost-free period: 140 to 160 days

Taxonomic class: Fine-loamy, mixed, calcareous, mesic Aquic Ustifluvents

Typical Pedon

Werlog clay loam, in an area of map unit 21, Werlog clay loam, 0 to 1 percent slopes; about 0.3 miles east and 0.3 miles north of Bode Store, New Mexico; New Mexico state plane coordinates 1,896,577 and 481,280 feet East. NAD 83, UTM 13 — 40 08 323 N; 03 81 883 E.

- A—0 to 6 inches; brown (10YR 4/3) clay loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; hard, friable, slightly sticky and moderately plastic; many fine and medium roots; common fine and few very fine vesicular pores; slightly effervescent; moderately alkaline; clear smooth boundary.
- C1—6 to 30 inches; brown (10YR 5/3) loam, brown (10YR 4/3) moist; few fine faint grayish brown (2.5Y 4/2) mottles; massive; hard, friable, slightly sticky and slightly plastic; common medium, fine and few very fine roots; few fine and common very fine tubular pores; slightly effervescent; moderately alkaline; gradual smooth boundary.
- C2—30 to 40 inches; pale brown (10YR 6/3) clay loam, dark brown (10YR 3/3) moist; few fine faint grayish brown (2.5Y 4/2) mottles; massive; hard, friable, slightly sticky and moderately plastic; few medium, fine and very fine roots; few fine and very fine tubular pores; slightly effervescent; moderately alkaline; clear wavy boundary.
- C3—40 to 43 inches; brown (10YR 5/3) fine sandy loam, dark grayish brown (10YR 4/2) moist; few medium faint olive brown (2.5YR 4/4) mottles; massive; hard, friable, nonsticky and nonplastic; few medium and fine roots; few fine tubular pores; slightly effervescent; moderately alkaline; clear wavy boundary.

- C4—43 to 55 inches; brown (10YR 5/3) loam, dark grayish brown (10YR 4/2) moist; few medium faint olive brown (2.5Y 4/4) mottles; massive; slightly hard, very friable, slightly sticky and slightly plastic; few fine and very fine roots; few fine tubular pores; slightly effervescent; moderately alkaline clear wavy boundary.
- C5—55 to 60 inches; pale brown (10YR 6/3) sand, brown (10YR 4/3) moist; few medium faint reddish brown (5YR 5/4) mottles; soft, loose, nonsticky and nonplastic; few very fine roots; few fine pores; slightly effervescent; moderately alkaline.

Range in Characteristics

A horizon:

Chroma: 2 or 3

C horizon:

Value: 5 or 6 dry, 3 or 4 moist

Chroma: 1 or 3

Texture, fine earth fraction: stratified loam, clay loam, and fine sandy loam. Strata of sand, sandy loam, or loam occur below a depth of 40 inches.

Note: A high water table may occur at 25 to 40 inches from March through November.

Wiggler Series

Map unit: 127

Depth class: shallow

Drainage class: well drained

Slowest permeability: 0.2 to 0.6 in./hr. (moderately slow)

Landform: sideslopes and summits of hills

Parent material: slope alluvium and colluvium derived from shale

Elevation: 7,400 to 8,100 feet (2,256 to 2,469 meters)

Slope: 5 to 25 percent

Climatic data:

Mean annual precipitation: 16 to 18 inches (406 to 457 millimeters)

Mean annual air temperature: 40 to 45 degrees F. (4.4 to 7.2 degrees C.)

Frost-free period: 80 to 100 days

Taxonomic class: Loamy, mixed, calcareous, frigid, shallow Typic Ustorthents

Typical Pedon

Wiggler channery clay loam in an area of map unit 127, Rombo-Wiggler complex, 5 to 25 percent slopes; about 5 miles west and 4 miles south of Chama on the Lee Wood Ranch, New Mexico; New Mexico state plane coordinates 2,118,230 feet north and 376,670 feet east. NAD 83, UTM 13 — 40 76 287 N; 03 50 881 E.

- A—0 to 3 inches; light gray (2.5Y 7/2) channery clay loam, olive brown (2.5Y 4/4) moist; weak fine granular structure; slightly hard, friable, moderately sticky and moderately plastic; common fine and medium roots; many fine interstitial pores; 25 percent channers; violently effervescent; moderately alkaline; clear smooth boundary.
- C—3 to 10 inches; light brownish gray (2.5Y 6/2) clay loam, dark grayish brown (2.5Y 4/2) moist; massive; hard, firm, moderately sticky and moderately plastic; common fine and medium roots; many fine and very fine tubular pores; violently effervescent; moderately alkaline; clear smooth boundary.
- Cr—10 inches; soft and fractured shale.

Range in Characteristics

A horizon:

Value: 6 or 7 dry, 3 to 5 moist

Chroma: 2 to 4

Rock fragments: 15 to 30 percent channers and 0 to 5 percent flagstones

C horizon:

Value: 5 to 7 dry, 3 to 5 moist

Chroma: 2 to 4

Depth to a paralithic contact: 10 to 20 inches

Yarts Series

Map unit: 149

Depth class: very deep

Drainage class: well drained

Slowest permeability: 2.0 to 6.0 in./hr. (moderately rapid)

Landform: stream terraces

Parent material: stream alluvium derived from sandstone and shale

Elevation: 5,800 to 6,500 feet (1,768 to 1,981 meters)

Slope: 1 to 4 percent

Climatic data:

Mean annual precipitation: 10 to 13 inches (254 to 330 millimeters)

Mean annual air temperature: 48 to 52 degrees F. (8.9 to 11.1 degrees C.)

Frost-free period: 120 to 140 days

Taxonomic class: Coarse-loamy, mixed, calcareous, mesic Ustic Torriorthents

Typical Pedon

Yarts sandy loam, in an area of map unit 149, Yarts sandy loam, 1 to 4 percent slopes; 0.3 mile south and 0.3 mile east of Velarde, New Mexico; New Mexico state plane coordinates 1,870,500 feet south and 581,500 feet east. NAD 83, UTM 13 — 39 99 984 N; 04 12 320 E.

A—0 to 3 inches; light brown (7.5YR 6/4) sandy loam, brown (7.5YR 5/4) moist; weak fine granular structure; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; few very fine interstitial pores; strongly effervescent; moderately alkaline; clear smooth boundary.

C—3 to 60 inches; brown (7.5YR 5/4) fine sandy loam, brown (7.5YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine roots; few very fine tubular pores; strongly effervescent; moderately alkaline.

Range in Characteristics

A horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

C horizon:

Value: 5 or 6 dry, 4 or 5 moist

Chroma: 3 or 4

Note: Rock fragments in the profile range from 0 to 10 percent gravel.

Yata Series

Map unit: 137

Depth class: very deep

Drainage class: well drained

Slowest permeability: .06 to 0.2 in./hr. (slow)

Landform: escarpments, mountain slopes

Parent material: slope alluvium and colluvium derived from mixed sources

Elevation: 8,100 to 9,700 feet (2,469 to 2,957 meters)

Slope: 50 to 80 percent

Climatic data:

Mean annual precipitation: 25 to 28 inches (635 to 711 millimeters)

Mean annual air temperature: 35 to 40 degrees F. (1.7 to 4.4 degrees C.)

Frost-free period: 50 to 70 days

Taxonomic class: Clayey-skeletal, mixed Argic Pachic Cryoborolls

Typical Pedon

Yata loam, in an area of map unit 137, Yata-Eody loams, 50 to 80 percent slopes; about 5.1 miles east and 2.2 miles south of Monero, New Mexico; New Mexico state plan coordinates 2,123,478 feet north and 348,850 feet east. NAD 83, UTM 13 — 40 77 998 N; 03 42 424 E.

A1—0 to 3 inches; very dark grayish brown (10YR 3/2) loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable; slightly sticky and slightly plastic; common fine and very fine roots; few very fine vesicular pores; neutral; clear smooth boundary.

A2—3 to 10 inches; dark grayish brown (10YR 4/2) loam, very dark grayish brown (10YR 3/2) moist; weak medium granular structure; soft, very friable, slightly sticky and slightly plastic; common fine and very fine roots; common very fine vesicular pores; neutral; gradual smooth boundary.

Bt1—10 to 21 inches; grayish brown (10YR 5/2) cobbly silty clay loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; slightly hard, firm, moderately sticky and moderately plastic; common fine, medium and few large roots; few very fine tubular pores; few thin clay films on faces of peds; 10 percent gravel and 20 percent cobbles; neutral; clear smooth boundary.

Bt2—21 to 31 inches; grayish brown (10YR 5/2) very cobbly silty clay, dark grayish brown (10YR 4/2) moist; moderate medium subangular blocky structure; very hard, firm, moderately sticky and very plastic; few fine and medium roots; few very fine continuous tubular pores; common stress cutans, few moderately thick clay films in pores, many thick clay films coating rock fragments; 20 percent gravel and 30 percent cobbles; neutral; clear smooth boundary.

Bt3—31 to 60 inches; grayish brown (2.5Y 5/2) very cobbly silty clay, dark grayish brown (2.5Y 4/2) moist; moderate medium subangular blocky structure; very hard, firm, moderately sticky and very plastic; few fine and medium roots; few very fine vesicular pores; few moderately thick clay films in pores and many thick clay films on rock fragments; 30 percent gravel and 25 percent cobbles; slightly alkaline.

Range in Characteristics

A horizon:

Value: 2 to 4 dry and 2 or 3 moist

Bt horizon:

Hue: 10YR or 2.5Y

Value: 4 or 5 dry and 3 or 4 moist

Rock fragments: 10 to 35 percent gravel and 20 to 30 percent cobbles

Formation of the Soils

Soil is a collection of natural bodies occurring on the earth's surface and is capable of supporting plants. Its properties result from the extent to which physical, chemical and biological processes have affected the material, from which soil is derived, the parent material. The main processes active in the soils of the Rio Arriba Area are weathering of soil particles and rock material through dissolution and disintegration; accumulation and oxidation of organic matter in surface layers; formation of soil structure and surface crusting; movement of dissolved soil constituents with soil water, and precipitation of soil constituents from soil water; and movement of clay particles with soil water downward through the soil.

Most of these soil processes enhance plant growth, and some bring about hindrances to plant growth. Some soil processes are dependent upon other processes having reached a certain stage. Soil processes, or their lack, give the present soil its characteristics and are governed by five soil-forming factors: time, parent material, climate, relief and living organisms. Understanding and recognizing the extent to which soil processes have occurred affords the soil user the ability to predict the capability of soils for many uses.

Time

The formation of parent material (the unconsolidated mineral and organic material which when exposed at the earth's surface give rise to soil) by the weathering of geologic deposits requires great amount of *time*. In addition, soil processes require a period of time before bringing about soil properties significantly different from properties inherited from the parent material. Many soil processes are dependent on the previous operation of other, different soil processes.

Therefore, the amount of time that a soil has been in place is very important to its present character. In the Rio Arriba Area, soils in the Rio Grande and Chama River valleys have been there a short time, resulting in soils like Gilco, Jocity, Abiquiu, and Peralta, which have little evidence of soil processes operating except for the accumulation of a small amount of organic matter in the surface layer. These and other young soils resemble very closely the original parent material from which they were derived.

Older soils have developed features, such as argillic, calcic, or cambic horizons, which indicate the relative length of time a soil has been in place, and which processes have been operational in the soil. The older a soil becomes, the less it resembles the parent material from which it was derived.

Recognition of horizons and features, with knowledge of how their accompanying processes affect soil fertility, soil bulk density, and other properties give great insight into the value of soil for specific uses.

Parent Material

A complex geologic history, ranging from formation of sedimentary rocks while great seas covered the earth, to volcanism and mountain-forming processes provided a great many rock formations in the Rio Arriba Area, the constituents of which to a

great extent, determined the chemical, mineralogical, and textural attributes of the soils. Unless already unconsolidated, it is the decomposition and disintegration of these rocks which give rise to the *parent material* of soil.

Parent materials in the Rio Arriba Area fall into two broad categories. The first is material which, after weathering from rock, is not moved, but remains in place and is subject to soil-forming processes. The second category is unconsolidated rock-derived material that has been transported by water, wind, or by force of gravity.

Soils formed in non-transported materials have mineralogical, chemical and textural traits, which are directly related to the rock from which the material is derived. There are many examples of such soils in the Rio Arriba Area. The Hagerman, Fruitland, Pinavetes, Vessilla, and Parida soils all contain high amounts of sand-sized quartz, inherited from their weathered sandstone parent material. Soils developed from weathered shale, such as Menefee, Teromote, Tottles, and Roques, contain a great deal of silt- and clay-sized particles of various clay minerals, feldspars, and some quartz. Other soils formed in untransported weathered rock material are the Peney and Ransect soils, from weathered limestone, and the Redondo soil from weathered tuff.

Soils formed in transported materials can have particles weathered from one rock type, a few or many types, depending on the method and distance of transport. *Colluvial* soils are formed in material moved by the force of gravity, which is transported a relatively short distance downslope. The Wauquie soil formed in material moved down slopes after weathering from granite and shale. Alanos soils formed in transported weathered tuff, and Palon soils are formed in weathered rhyolite that has moved down slopes.

The second type of transported soil parent material is *eolian*, or wind blown sediments. These are materials that begin as particles on the surface of other soils, end up comprising the entire depth of a new soil. The Pinavetes, Razito, and Royosa soils, when found in upland areas, are derived from eolian sand.

Alluvium is the third type of transported soil parent material found in the Rio Arriba Area. It is material that has been moved and deposited by streams and rivers. Alluvium is rarely derived from one rock type, and its sediments generally are mineralogically diversified. Often alluvial sediments are sorted according to texture. It is deposited in layers, which are often well-defined and contrasting in texture, color, and organic matter content. Alluvium is found throughout the Rio Arriba Area and varies greatly in age. Recent deposits of alluvium are found along the Rio Grande, Chama River and their tributaries. Soils such as the Gilco, Peralta, Abiquiu, Dula, Sparank, Jocity, and Sparham are formed in recent alluvium and display well defined layering. Older alluvium, much of which was deposited by the ancestral Rio Grande and its tributaries, is locally extensive in the survey area. Soil development processes have obliterated most evidence of layering in these soils. Some soils formed in old alluvium are Orlie, Dermala, Capillo, Elpedro, and Manzano.

Many soils in the Rio Arriba Area are formed in more than one kind of parent material. Mountain soils are often formed in a mantle of colluvium overlying untransported material weathered from bedrock. Soils atop basalt mesas, like Chita soils, formed in untransported weathered basalt material mixed with eolian silt. Royosa soils formed in eolian sands mixed with weathered sandstone, and sometimes have a cap of colluvial basalt particles. All soils in the area receive eolian deposits, in varying amounts and often so little that it is not recognizable. Often this is in minor yearly contributions of calcareous dust, which over many years can bring about a highly calcareous soil.

In addition to being the initial material on which soil processes act, the parent material affects in part, which and how fast soil-transforming processes occur, mainly by the rate that the parent material weathers and how fast it is transported.

Climate

The *climate* of an area is greatly responsible for the types of soil processes and for the rate at which these processes occur. The main features of climate affecting soil processes are precipitation and temperature.

The climate of the Rio Arriba Area at present is semi-arid continental. The lowest areas have annual precipitation of about eight inches and mean annual air temperature of about 52 degrees F. These are the driest areas and areas of least vegetation. The small amount of organic matter produced by the vegetation is rapidly oxidized, resulting in soils with light colored surface horizons as in Razito and Fruitland soils.

With increased temperature, chemical and biochemical reactions are hastened. In addition, freeze-thaw cycles speed the weathering of soil and rock particles. The temperature also greatly affects evaporation of water from the soil and transpiration of water from plants.

As the amount of precipitation increases, the potential amount of vegetation on a soil increases. The number of days per year that the soil is moist during the frost-free period determines how much vegetation can be supported and the time during which soil processes occur. The depth to which water penetrates the soil is also very important as it determines the maximum depth of root penetration and the depth beyond which soil transforming processes are greatly slowed. If there is not enough precipitation for water to move through the entire soil and enter the ground water system, calcium carbonate deposits are precipitated at the depth of maximum water penetration.

In the cold, wet mountainous areas of the Rio Arriba Area, soils such as Gromes and Angostura support stands of large trees. These areas receive 30 or more inches of precipitation per year and the average annual air temperature is about 40 degrees F. The soils in these areas are moist more days per year than most others in the Rio Arriba Area. The cooler temperatures allow for a buildup of organic matter in the surface layers of these soils.

Older soils in the area have been influenced by past climates, which were similar to the present one, but slightly more moist and cooler. Similar soil processes took place, at an accelerated rate when compared to present conditions. For this reason some soils in the driest part of the Rio Arriba Area have strongly developed features such as the calcic horizon of the Pena soil, and argillic horizons of the Penistaja soil.

Relief

Soil *relief* has a profound influence on the development of soil features. The many facets of relief, including degree, direction, shape, and roughness of the slope, influence the climate of a soil and the extent of erosive forces affecting a soil.

On steep soils, the potential for erosion is greatest and soil features develop slowly. As organic matter accumulations and weathered soil material washes away, new soil parent material or bedrock nears the surface. If the erosion is moderate or severe, it is accompanied by a decrease in vegetation and an increase in runoff water, which in turn enhances the erosion.

Soils on very slight or level slopes often receive depositions of soil material. This process also slows the development of soil features, since soil material is buried too deeply before soil-transforming processes are able to cause features to develop. This process is accompanied by an increase in amount of vegetation since along with new material, the soil receives run-on water.

The climate of a soil is affected greatly by the runoff or run-on water it sheds or receives.

Soils with a concave slope, such as the San Mateo soil, receive a great amount of their moisture from adjacent, steeper slopes. Soils with steeper slopes shed various amounts of water depending on their steepness, amount of vegetation, and surface roughness. Soils with a very gravelly surface composed of angular pebbles protruding from the surface can retain precipitation, even with a steep slope. A very gravelly surface of rounded, imbedded pebbles, however, will shed water rapidly and deprive the soil of moisture.

On steep slopes there is a wide difference in climate between adjacent north-facing and south-facing slopes. Less direct sunlight and less wind on north-facing slopes results in an evapotranspiration rate lower than that on south-facing slopes. This accounts for more days during which the soil is moist and more abundant vegetation on north-facing slopes.

The interaction of all the facets of soil relief can account for wide soil variations over short distances.

Living Organisms

The life associated with a soil influences the processes within, as well as the features and the characteristics of a soil.

The vegetation supported by a soil is part of this life. Plant roots provide channels for water flow into depths of soils which otherwise might receive little water. Plant material provides the bulk of the organic portion of soil, which is important to fertility. Plant life is very important in retaining soils in place, protecting them from erosion. A good plant cover will reduce evaporation of water from the soil surface and reduce runoff, providing a soil with more moist days each year.

Insects, worms, and rodents affect aeration and intake rate by mixing and burrowing. Some animals affect the vegetation on the soil by their eating habits. Large animals, especially in dry areas where soil crusts form, enhance seed germination by walking across the soil surface, providing a favorable seedbed in their hoofprints.

Microscopic organisms function importantly in nutrient cycling. Fungi, bacteria, nematodes, and others process organic material and release nutrients for further plant growth. They also add acids, gases, and other chemical compounds that affect soil processes.

Many soils have been changed as a result of human intervention. People change vegetation on soils, animal and microbial life of soils, soil climate, and relief, through urban development, farming, ranching, logging, and sundry enterprises.

Considering the five soil-forming factors, all of them occur in wide variation throughout the Rio Arriba Area, resulting in a great variety of soils. These soils represent a great natural resource and provide for a variety of land uses. Knowledge of this body of soils and how they were derived can help one to guard and use the resources wisely.

Hydric Soils

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 1998) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 1998).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

The following map units have major components that meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 1998).

64	Dula loam, 0 to 2 percent slopes
117	Chamita loam, 0 to 2 percent slopes
118	Hesperus-Pastorius-Chamita complex, 0 to 5 percent slopes
129	Nusmag-Tottles clay loams, 0 to 3 percent slopes
209	Crubas-Bywell-Croftshaw complex, 0 to 15 percent slopes
240	Riverwash

Map units that are made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The following map units, in general, do not have major components that meet the definition of hydric soils because they do not have one of the hydric soil indicators. A portion of these map units, however, may include minor components that are hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

21	Werlog clay loam, 0 to 1 percent slopes
42	Walrees-Abiquiu complex, 0 to 2 percent slopes
54	Capillo silt loam, 0 to 8 percent slopes
61	Colomex gravelly silt loam, 0 to 3 percent slopes
66	Encicado silty clay loam, 0 to 3 percent slopes
107	Berryman-Ruson association, 1 to 8 percent slopes
119	Roques-Nusmag clay loams, 1 to 8 percent slopes
149	Yarts sandy loam, 1 to 4 percent slopes
151	Razito-Fruitland complex, 1 to 5 percent slopes
203	Nabor-Elbuck complex, 5 to 35 percent slopes
206	Angostura-Gromes complex, 15 to 35 percent slopes
207	Gromes-Rock outcrop complex, 15 to 40 percent slopes
208	Ess-Croftshaw complex, 3 to 20 percent slopes
215	Saragote-Ess complex, 2 to 8 percent slopes

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alkali (sodic) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvial cone. The material washed down the sides of mountains and hills by ephemeral streams and deposited at the mouth of gorges in the form of a moderately steep, conical mass descending equally in all directions from the point of issue.

Alluvial fan. The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Arroyo. The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in alluvium.

Aspect. The direction in which a slope faces.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low 0 to 3

Low 3 to 6

Moderate 6 to 9

High 9 to 12

Very high more than 12

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

- Badland.** Steep or very steep, commonly nonstony, barren land dissected by many intermittent drainage channels. Badland is most common in semiarid and arid regions where streams are entrenched in soft geologic material. Local relief generally ranges from 25 to 500 feet. Runoff potential is very high, and geologic erosion is active.
- Bajada.** A broad alluvial slope extending from the base of a mountain range out into a basin and formed by coalescence of separate alluvial fans.
- Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.
- Base slope.** A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).
- Bedding planes.** Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.
- Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.
- Bedrock-controlled topography.** A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.
- Bench terrace.** A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.
- Bisequum.** Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.
- Blowout.** A shallow depression from which all or most of the soil material has been removed by the wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.
- Bottom land.** The normal flood plain of a stream, subject to flooding.
- Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.
- Breaks.** The steep and very steep broken land at the border of an upland summit that is dissected by ravines.
- Brush management.** Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.
- Butte.** An isolated small mountain or hill with steep or precipitous sides and a top variously flat, rounded, or pointed that may be a residual mass isolated by erosion or an exposed volcanic neck.
- Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.
- Caliche.** A more or less cemented deposit of calcium carbonate in soils of warm-temperate, subhumid to arid areas. Caliche occurs as soft, thin layers in the soil or as hard, thick beds directly beneath the solum, or it is exposed at the surface by erosion.
- California bearing ratio (CBR).** The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.
- Canopy.** The leafy crown of trees or shrubs. (See Crown.)

- Canyon.** A long, deep, narrow, very steep sided valley with high, precipitous walls in an area of high local relief.
- Capillary water.** Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.
- Catena.** A sequence, or “chain,” of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.
- Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.
- Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.
- Catsteps.** Very small, irregular terraces on steep hillsides, especially in pasture, formed by the trampling of cattle or the slippage of saturated soil.
- Cement rock.** Shaly limestone used in the manufacture of cement.
- Channery soil material.** Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a chanter.
- Chemical treatment.** Control of unwanted vegetation through the use of chemicals.
- Chiseling.** Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.
- Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.
- Clay depletions.** Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.
- Clay film.** A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.
- Claypan.** A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.
- Climax plant community.** The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.
- Coarse textured soil.** Sand or loamy sand.
- Cobble (or cobblestone).** A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.
- Cobbly soil material.** Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.
- COLE (coefficient of linear extensibility).** See Linear extensibility.
- Colluvium.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.
- Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.
- Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conglomerate. A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coppice dune. A small dune of fine grained soil material stabilized around shrubs or small trees.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cuesta. A hill or ridge that has a gentle slope on one side and a steep slope on the other; specifically, an asymmetric, homoclinal ridge capped by resistant rock layers of slight or moderate dip.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained*, *somewhat excessively drained*, *well drained*, *moderately well drained*, *somewhat poorly drained*, *poorly drained*, and *very poorly drained*. These classes are defined in the “Soil Survey Manual.”

Drainage, surface. Runoff, or surface flow of water, from an area.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) emplaced on the earth's surface.

Fan remnant. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.

Fine textured soil. Sandy clay, silty clay, or clay.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Foothill. A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gilgai. Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Head slope. A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential.

The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock formed by solidification from a molten or partially molten state.

Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2		very low
0.2 to 0.4		low
0.4 to 0.75		moderately low
0.75 to 1.25		moderate
1.25 to 1.75		moderately high
1.75 to 2.5		high
More than 2.5		very high

Interfluv. An elevated area between two drainageways that sheds water to those drainageways.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat} . Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $1/3$ - or $1/10$ -bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Major Land Resource Area. A geographic area, usually several million acres in extent, that is characterized by a particular pattern of soils, climate, water resources, and land uses. It is a category in a USDA system of land classification that is applied to all land of the United States. Identification of these areas is important in statewide resource planning and has value in interstate, regional, and national planning.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mesa. A broad, nearly flat topped and commonly isolated upland mass characterized by summit widths that are more than the heights of bounding erosional scarps.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

Mountain. A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

Mudstone. Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nose slope. A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

Pedon. The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as “saturated hydraulic conductivity,” which is defined in the “Soil Survey Manual.” In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as

“permeability.” Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plateau. An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Salinity (in map unit descriptions). The degree to which a soil is affected by soluble salts. Salinity is expressed as the electrical conductivity of the saturation

extract in millimhos per centimeter at 25 degrees C. The degrees of salinity and their respective conductivities in millimhos per centimeter are:

Nonsaline	0 to 2
Very slightly saline	2 to 4
Slightly saline	4 to 8
Moderately saline	8 to 16
Strongly saline	more than 16

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Shrink-swell potential (in map unit descriptions). A measure of the potential expansion of a soil upon wetting, also termed "linear extensibility." It is the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is expressed as the volume change, as a percent of the whole soil, from the water content of a clod at $\frac{1}{3}$ -bar tension (33kPa) to oven dryness. As used in the map unit descriptions, classes of shrink swell potential are based on the thickest layer between a depth of 10 and 60 inches. The classes and their respective values of percent linear extensibility are:

Low	0 to 3
Moderate	3 to 6
High	6 to 9
Very high	more than 9

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slick spot. A small area of soil having a puddled, crusted, or smooth surface and an excess of exchangeable sodium. The soil generally is silty or clayey, is slippery when wet, and is low in productivity.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Sodic (alkali) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodicity. The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^+ to $\text{Ca}^{++} + \text{Mg}^{++}$. The degrees of sodicity and their respective ratios are:

Nonsodic	0
Slight	0 to 13:1
Moderate	13 to 30:1
Strong	more than 30:1

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stone line. A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand*, *loamy sand*, *sandy loam*, *loam*, *silt loam*, *silt*, *sandy clay loam*, *clay loam*, *silty clay loam*, *sandy clay*, *silty clay*, and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tuff. A compacted deposit that is 50 percent or more volcanic ash and dust.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Tables

Table 1.--Temperature and precipitation

(Recorded in the period 1971-2000 at Alcalde, NM, #0245)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have--		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
	°F	°F	°F	°F	°F	Units	In.	In.	In.		In.
January-----	45.6	15.9	30.8	63	-9	4	0.40	0.05	0.73	1	2.5
February-----	52.4	21.3	36.8	69	3	33	0.38	0.03	0.71	1	2.6
March-----	60.0	26.8	43.4	77	11	139	0.58	0.12	0.99	2	1.8
April-----	67.7	32.7	50.2	83	17	305	0.66	0.07	1.09	1	0.2
May-----	76.9	40.5	58.7	91	26	569	0.84	0.00	1.41	2	0.1
June-----	86.7	48.7	67.7	98	36	815	0.84	0.19	1.27	2	0.0
July-----	89.3	55.0	72.2	99	44	981	1.36	0.49	2.23	4	0.0
August-----	86.8	53.8	70.3	97	41	915	1.80	0.93	2.67	4	0.0
September---	80.6	45.1	62.9	92	29	678	1.25	0.40	2.09	2	0.0
October-----	70.8	33.3	52.1	86	17	375	1.04	0.16	1.79	2	0.3
November----	56.5	23.5	40.0	73	6	79	0.84	0.26	1.28	2	1.0
December----	46.4	16.5	31.4	62	-1	6	0.37	0.00	0.62	1	1.2
Yearly:											
Average---	68.3	34.4	51.4	---	---	---	---	---	---	---	---
Extreme---	102	-34	---	100	-10	---	---	---	---	---	---
Total-----	---	---	---	---	---	4900	10.35	6.92	12.49	24	9.7

Table 1.--Temperature and precipitation--Continued

(Recorded in the period 1971-2000 at Chama, NM, #1664)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have--		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
				°F	°F	Units	In.	In.	In.		In.
January-----	37.1	4.8	20.9	53	-21	0	1.98	0.65	3.24	4	26.1
February----	41.1	9.4	25.3	56	-18	0	1.84	0.71	2.90	4	21.3
March-----	47.4	16.6	32.0	65	-7	11	2.20	0.88	3.55	5	17.6
April-----	56.1	23.2	39.6	71	2	78	1.50	0.59	2.33	4	5.7
May-----	65.2	30.6	47.9	79	15	253	1.45	0.49	2.44	4	0.7
June-----	76.1	37.4	56.7	88	23	494	1.10	0.34	1.89	3	0.0
July-----	80.4	44.3	62.3	90	32	685	2.14	1.05	3.15	6	0.0
August-----	77.7	44.3	61.0	88	33	646	2.88	2.04	3.72	7	0.0
September---	71.5	36.9	54.2	84	20	427	2.10	1.12	2.93	5	0.0
October-----	61.1	26.6	43.9	76	6	161	2.12	0.63	3.54	4	3.9
November----	46.3	15.7	31.0	65	-9	12	1.98	0.93	3.02	4	13.3
December----	38.5	7.7	23.1	55	-18	0	1.64	0.51	2.74	4	18.5
Yearly:											
Average---	58.2	24.8	41.5	---	---	---	---	---	---	---	---
Extreme---	92	-30	---	91	-25	---	---	---	---	---	---
Total-----	---	---	---	---	---	2767	22.94	18.74	26.97	54	107.1

Table 1.--Temperature and precipitation--Continued

(Recorded in the period 1971-2000 at Dulce, NM, #2608)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have--		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
	°F	°F	°F	°F	°F	Units	In.	In.	In.		In.
January-----	41.0	6.9	23.9	58	-22	0	1.40	0.50	2.28	3	15.2
February----	45.9	13.1	29.5	62	-13	3	1.22	0.41	2.04	3	11.6
March-----	53.2	20.5	36.9	70	0	33	1.63	0.64	2.58	4	7.4
April-----	62.0	25.1	43.5	77	9	142	1.09	0.46	1.63	3	2.3
May-----	70.6	31.7	51.2	84	17	352	1.42	0.32	2.59	3	0.0
June-----	80.9	38.0	59.5	92	25	584	0.75	0.15	1.30	2	0.0
July-----	85.0	46.3	65.6	95	32	787	1.74	0.60	2.88	4	0.0
August-----	82.6	47.0	64.8	93	34	764	2.51	1.27	3.76	6	0.0
September---	76.2	38.2	57.2	88	21	515	1.68	0.72	2.61	4	0.0
October-----	65.8	27.4	46.6	81	11	222	1.72	0.42	2.96	4	1.0
November----	51.0	17.8	34.4	69	-6	23	1.45	0.53	2.40	4	6.1
December----	42.4	9.2	25.8	59	-17	0	1.16	0.38	1.90	3	12.2
Yearly:											
Average---	63.1	26.7	44.9	---	---	---	---	---	---	---	---
Extreme---	97	-38	---	95	-25	---	---	---	---	---	---
Total-----	---	---	---	---	---	3425	17.78	14.77	20.63	43	55.8

Table 1.--Temperature and precipitation--Continued

(Recorded in the period 1971-2000 at Lindrith 2 SE, NM, #4960)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have--		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
	°F	°F	°F	°F	°F	Units	In.	In.	In.		In.
January-----	40.3	10.8	25.5	58	-16	1	1.05	0.37	1.68	3	16.1
February----	44.7	15.1	29.9	61	-15	4	0.81	0.36	1.17	3	11.7
March-----	52.4	22.2	37.3	69	-1	47	1.35	0.42	2.33	4	9.8
April-----	61.1	27.4	44.2	77	9	167	0.79	0.14	1.38	2	4.0
May-----	70.2	35.8	53.0	84	18	402	0.92	0.16	1.73	3	0.3
June-----	81.7	45.1	63.4	94	27	694	0.86	0.16	1.47	2	0.0
July-----	85.1	50.7	67.9	96	38	830	1.89	0.91	2.70	5	0.0
August-----	82.2	50.0	66.1	93	39	802	2.24	1.29	3.07	6	0.0
September---	75.8	42.3	59.0	89	25	564	1.26	0.44	2.15	3	0.0
October-----	64.8	31.2	48.0	80	11	265	1.13	0.30	1.72	3	2.5
November----	49.8	20.2	35.0	69	-3	32	1.12	0.45	1.76	3	7.1
December----	42.1	13.2	27.7	60	-11	1	0.85	0.19	1.40	2	10.3
Yearly:											
Average---	62.5	30.3	46.4	---	---	---	---	---	---	---	---
Extreme---	100	-25	---	96	-19	---	---	---	---	---	---
Total-----	---	---	---	---	---	3810	14.28	10.05	16.62	39	62.0

Table 1.--Temperature and precipitation--Continued

(Recorded in the period 1971-2000 at Tierra Amarilla 4 N, NM, #8845)

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average	2 years in 10 will have--		Average number of growing degree days*	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
	°F	°F	°F	°F	°F	Units	In.	In.	In.		In.
January-----	38.6	4.0	21.3	55	-25	0	1.18	0.39	1.88	3	12.9
February----	43.2	9.6	26.4	58	-18	1	1.04	0.28	1.73	3	11.7
March-----	50.3	18.0	34.2	68	-3	18	1.35	0.47	2.23	4	10.8
April-----	58.3	24.0	41.1	74	5	96	1.06	0.35	1.67	3	4.5
May-----	67.7	31.2	49.4	81	17	292	1.27	0.41	2.07	3	0.3
June-----	77.9	37.6	57.7	90	25	526	0.76	0.28	1.24	2	0.0
July-----	82.0	45.2	63.6	92	33	722	1.89	0.91	2.86	5	0.0
August-----	79.8	45.1	62.4	89	34	678	2.54	1.60	3.45	7	0.0
September---	73.4	36.8	55.1	86	21	450	1.77	0.84	2.66	4	0.0
October-----	63.1	27.0	45.1	79	10	178	1.44	0.50	2.30	3	2.0
November----	48.2	16.2	32.2	68	-8	13	1.27	0.47	2.06	3	10.1
December----	39.8	7.1	23.4	57	-17	0	0.89	0.24	1.46	2	11.4
Yearly:											
Average---	60.2	25.1	42.7	---	---	---	---	---	---	---	---
Extreme---	95	-39	---	93	-26	---	---	---	---	---	---
Total-----	---	---	---	---	---	2975	16.47	11.58	19.18	42	63.7

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40 degrees. F)

Table 2.--Freeze dates in spring and fall
(Recorded in the period 1971-2000 at Alcalde, NM, #0245)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	April 26	May 11	May 23
2 years in 10 later than--	April 20	May 5	May 18
5 years in 10 later than--	April 9	April 25	May 9
First freezing temperature in fall:			
1 yr. in 10 earlier than--	October 8	September 29	September 22
2 yrs. in 10 earlier than--	October 13	October 4	September 26
5 yrs. in 10 earlier than--	October 25	October 13	October 3

Table 2.--Freeze dates in spring and fall--Continued
(Recorded in the period 1971-2000 at Chama, NM, #1664)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	June 10	June 25	July 8
2 years in 10 later than--	June 4	June 20	July 3
5 years in 10 later than--	May 23	June 10	June 24
First freezing temperature in fall:			
1 yr. in 10 earlier than--	September 18	September 10	August 25
2 yrs. in 10 earlier than--	September 23	September 14	August 31
5 yrs. in 10 earlier than--	October 1	September 22	September 11

Table 2.--Freeze dates in spring and fall--Continued
 (Recorded in the period 1971-2000 at Dulce, NM, #2608)

Probability	Temperature		
	24 oF or lower	28 oF or lower	32 oF or lower
Last freezing temperature in spring:			
1 year in 10 later than--	June 6	June 22	July 12
2 years in 10 later than--	May 30	June 16	July 6
5 years in 10 later than--	May 18	June 3	June 24
First freezing temperature in fall:			
1 yr. in 10 earlier than--	September 18	September 10	August 28
2 yrs. in 10 earlier than--	September 23	September 14	September 3
5 yrs. in 10 earlier than--	October 3	September 22	September 14

Table 2.--Freeze dates in spring and fall--Continued
 (Recorded in the period 1971-2000 at Lindrith 2 SE, NM,
 #4960)

Probability	Temperature		
	24 oF or lower	28 oF or lower	32 oF or lower
Last freezing temperature in spring:			
1 year in 10 later than--	May 31	June 15	June 27
2 years in 10 later than--	May 22	June 7	June 20
5 years in 10 later than--	May 6	May 24	June 5
First freezing temperature in fall:			
1 yr. in 10 earlier than--	September 26	September 14	September 10
2 yrs. in 10 earlier than--	October 2	September 21	September 16
5 yrs. in 10 earlier than--	October 14	October 3	September 28

Table 2.--Freeze dates in spring and fall--Continued
 (Recorded in the period 1971-2000 at Tierra Amarilla 4 N,
 NM, #8845)

Probability	Temperature		
	24 oF or lower	28 oF or lower	32 oF or lower
Last freezing temperature in spring:			
1 year in 10 later than--	June 5	June 20	July 9
2 years in 10 later than--	May 29	June 15	July 2
5 years in 10 later than--	May 16	June 4	June 19
First freezing temperature in fall:			
1 yr, in 10 earlier than--	September 21	September 9	August 27
2 yrs. in 10 earlier than--	September 26	September 13	September 1
5 yrs. in 10 earlier than--	October 5	September 22	September 12

Table 3.--Growing season

(Recorded for the period 1971-2000 at Alcalde, NM,
#0245)

Probability	Daily Minimum Temperature During growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	171	150	131
8 years in 10	181	157	137
5 years in 10	199	170	148
2 years in 10	217	183	160
1 year in 10	227	190	166

Table 3.--Growing season--Continued

(Recorded for the period 1971-2000 at Chama, NM,
#1664)

Probability	Daily Minimum Temperature During growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	107	84	55
8 years in 10	115	91	63
5 years in 10	130	104	78
2 years in 10	146	116	94
1 year in 10	154	123	102

Table 3.--Growing season--Continued

(Recorded for the period 1971-2000 at Dulce, NM,
#2608)

Probability	Daily Minimum Temperature During growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	112	89	55
8 years in 10	121	97	64
5 years in 10	138	111	81
2 years in 10	155	125	99
1 year in 10	164	132	108

Table 3.--Growing season--Continued

(Recorded for the period 1971-2000 at Lindrith 2 SE,
NM, #4960)

Probability	Daily Minimum Temperature During growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	121	98	86
8 years in 10	134	109	96
5 years in 10	159	131	117
2 years in 10	184	152	137
1 year in 10	197	164	148

Table 3.--Growing season--Continued
 (Recorded for the period 1971-2000 at Tierra
 Amarilla 4 N, NM, #8845)

Probability	Daily Minimum Temperature During growing season		
	Higher than 24 °F	Higher than 28 °F	Higher than 32 °F
	Days	Days	Days
9 years in 10	116	89	57
8 years in 10	125	96	66
5 years in 10	142	110	84
2 years in 10	158	124	102
1 year in 10	167	131	112

Table 4.--Acreage and proportionate extent of the soils

Map symbol	Soil name	Rio Arriba County	Sandoval County	Total	
				Area	Extent
		<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Pct.</u>
9	Pinavetes-Florita complex, 2 to 10 percent slopes-----	26,034	---	26,034	1.6
10	Sparank-San Mateo silt loams, saline, sodic, 0 to 3 percent slopes-----	35,041	---	35,041	2.2
11	Fruitland sandy loam, 0 to 3 percent slopes--	3,475	---	3,475	0.2
12	Pinavetes loamy sand, 0 to 3 percent slopes--	3,658	---	3,658	0.2
18	Abiquiu-Peralta complex, 0 to 3 percent slopes-----	7,795	---	7,795	0.5
20	Menefee-Vessilla-Rock outcrop complex, 5 to 35 percent slopes-----	24,568	---	24,568	1.6
21	Werlog clay loam, 0 to 1 percent slopes-----	2,755	---	2,755	0.2
22	Jocity-Gilco complex, 1 to 3 percent slopes--	3,531	---	3,531	0.2
23	Gilco sandy clay loam, 0 to 3 percent slopes--	1,502	---	1,502	*
24	Jocity sandy clay loam, 0 to 1 percent slopes	898	---	898	*
30	San Mateo sandy loam, 0 to 3 percent slopes--	14,222	---	14,222	0.9
31	Gobernador-Orlie association, 0 to 8 percent slopes-----	16,444	---	16,444	1.0
34	Alcalde clay, 0 to 3 percent slopes-----	894	---	894	*
39	Fruitland sandy loam, 3 to 5 percent slopes--	6,057	---	6,057	0.4
40	Pinitos-Menefee-Vessilla complex, 2 to 20 percent slopes-----	48,287	---	48,287	3.1
42	Walrees-Abiquiu complex, 0 to 2 percent slopes-----	5,744	---	5,744	0.4
50	Stout-Kunz sandy loams, 5 to 15 percent slopes-----	5,113	---	5,113	0.3
54	Capillo silt loam, 0 to 8 percent slopes-----	1,126	---	1,126	*
60	Sparham clay loam, 0 to 3 percent slopes-----	817	---	817	*
61	Colomex gravelly silt loam, 0 to 3 percent slopes-----	2,585	---	2,585	0.2
64	Dula loam, 0 to 2 percent slopes-----	4,622	---	4,622	0.3
65	Doslomas loam, 0 to 3 percent slopes-----	840	---	840	*
66	Encicado silty clay loam, 0 to 3 percent slopes-----	721	---	721	*

Table 4.--Acreage and proportionate extent of the soils

Map symbol	Soil name	Rio Arriba County	Sandoval County	Total	
				Area	Extent
		<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Pct.</u>
69	Lindrith-Royosa complex, 2 to 7 percent slopes-----	8,524	---	8,524	0.5
70	Sparham clay loam, saline, sodic, 0 to 3 percent slopes-----	21,340	---	21,340	1.3
80	Orlie-Nalivag loams, 2 to 8 percent slopes---	23,496	---	23,496	1.5
102	Menefee-Nalivag complex, 8 to 25 percent slopes-----	5,010	---	5,010	0.3
103	Orlie fine sandy loam, 1 to 8 percent slopes-	98,044	819	98,863	6.3
106	Amal silt loam, 2 to 8 percent slopes-----	6,903	---	6,903	0.4
107	Berryman-Ruson association, 1 to 8 percent slopes-----	41,656	---	41,656	2.6
108	Peney-Ranset association, 1 to 20 percent slopes-----	10,441	---	10,441	0.7
109	Calendar gravelly loam, 5 to 35 percent slopes-----	16,409	---	16,409	1.0
110	Vessilla-Menefee-Orlie complex, 1 to 30 percent slopes-----	168,998	---	168,998	10.7
113	Teromote-Ruson association, 1 to 8 percent slopes-----	9,143	---	9,143	0.6
115	Menefee channery loam, 2 to 35 percent slopes	15,116	---	15,116	1.0
117	Chamita loam, 0 to 2 percent slopes-----	5,828	---	5,828	0.4
118	Hesperus-Pastorius-Chamita complex, 0 to 5 percent slopes-----	11,433	---	11,433	0.7
119	Roques-Nusmag clay loams, 1 to 8 percent slopes-----	22,755	---	22,755	1.4
125	Hogg-Mara loams, 2 to 12 percent slopes-----	23,907	---	23,907	1.5
127	Rombo-Wiggler complex, 5 to 25 percent slopes	25,968	---	25,968	1.6
129	Nusmag-Tottles clay loams, 0 to 3 percent slopes-----	5,755	---	5,755	0.4
130	Topetaul-Hogg complex, 3 to 25 percent slopes	7,626	---	7,626	0.5
132	Stout-Rock outcrop-Carjo complex, 5 to 20 percent slopes-----	9,754	---	9,754	0.6
133	Carrick silt loam, 1 to 4 percent slopes----	6,610	81	6,691	0.4

Table 4.--Acreage and proportionate extent of the soils

Map symbol	Soil name	Rio Arriba County	Sandoval County	Total	
				Area	Extent
		<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Pct.</u>
136	Elpedro silt loam, 1 to 5 percent slopes-----	29,412	---	29,412	1.9
137	Yata-Eody loams, 50 to 80 percent slopes-----	16,090	---	16,090	1.0
140	Espiritu-Wauquie association, 35 to 60 percent slopes-----	19,023	703	19,726	1.2
141	Capillo-Carjo-Vamer complex, 3 to 25 percent slopes-----	18,971	---	18,971	1.2
142	Pinavetes loamy sand, 3 to 12 percent slopes-----	22,723	---	22,723	1.4
145	Dermala-Rosced complex, 20 to 50 percent slopes-----	19,133	---	19,133	1.2
146	Parida-Palacid very gravelly sandy loams, 10 to 40 percent slopes-----	22,848	---	22,848	1.4
147	Dermala-Chimayo complex, 20 to 50 percent slopes-----	6,162	---	6,162	0.4
148	Chita loam, 0 to 5 percent slopes-----	17,675	---	17,675	1.1
149	Yarts sandy loam, 1 to 4 percent slopes-----	10,826	---	10,826	0.7
151	Razito-Fruitland complex, 1 to 5 percent slopes-----	12,230	---	12,230	0.8
170	Sedillo cobbly loam, 0 to 5 percent slopes---	1,845	---	1,845	0.1
173	Oelop fine sandy loam, 1 to 5 percent slopes-----	5,710	---	5,710	0.4
180	Oelop loam, 0 to 5 percent slopes-----	2,279	---	2,279	0.1
182	Oelop sandy loam, 5 to 9 percent slopes-----	1,090	---	1,090	*
190	Sedillo loam, 0 to 3 percent slopes-----	1,640	---	1,640	0.1
200	Katlon silt loam, 25 to 45 percent slopes----	1,958	---	1,958	0.1
201	Lobat-Abreu gravelly loams, 15 to 60 percent slopes-----	47,011	---	47,011	3.0
203	Nabor-Elbuck complex, 5 to 35 percent slopes-----	41,247	---	41,247	2.6
206	Angostura-Gromes complex, 15 to 35 percent slopes-----	23,724	---	23,724	1.5
207	Gromes-Rock outcrop complex, 15 to 40 percent slopes-----	11,042	---	11,042	0.7
208	Ess-Croftshaw complex, 3 to 20 percent slopes-----	16,136	340	16,476	1.0
209	Crubas-Bywell-Croftshaw complex, 0 to 15 percent slopes-----	11,871	---	11,871	0.8

Table 4.--Acreage and proportionate extent of the soils

Map symbol	Soil name	Rio Arriba County	Sandoval County	Total	
				Area	Extent
		<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Pct.</u>
210	Rock outcrop-Bracos complex, 40 to 80 percent slopes-----	18,667	---	18,667	1.2
211	Angostura very cobbly loam, 15 to 40 percent slopes-----	21,559	---	21,559	1.4
214	Quimera-Vamer very channery clay loams, 10 to 35 percent slopes-----	7,910	---	7,910	0.5
215	Saragote-Ess complex, 2 to 8 percent slopes--	24,716	---	24,716	1.6
216	Angostura very cobbly sandy loam, 15 to 45 percent slopes-----	8,732	---	8,732	0.6
220	Rock outcrop-Vessilla-Menefee complex, 15 to 45 percent slopes-----	104,029	---	104,029	6.6
228	Suposo-Brycan complex, 1 to 6 percent slopes-	8,994	---	8,994	0.6
230	Badland-----	6,725	---	6,725	0.4
240	Riverwash-----	7,171	---	7,171	0.5
241	Florita-Rock outcrop complex, 15 to 45 percent slopes-----	93,039	---	93,039	5.9
242	Tinaja-Rock outcrop complex, 45 to 75 percent slopes-----	56,179	1,441	57,620	3.6
243	Penistaja fine sandy loam, 2 to 8 percent slopes-----	14,459	---	14,459	0.9
244	Scholle-Silver loams, 1 to 5 percent slopes--	8,779	---	8,779	0.6
245	Maia-Manzano complex, 0 to 5 percent slopes--	7,360	---	7,360	0.5
246	Pena gravelly sandy loam, 2 to 15 percent slopes-----	6,228	154	6,382	0.4
247	Wenota silty clay loam, 1 to 6 percent slopes	6,014	---	6,014	0.4
248	Hagerman-Silver fine sandy loams, 2 to 7 percent slopes-----	11,746	---	11,746	0.7
249	Losmarios extremely cobbly sandy clay loam, 10 to 35 percent slopes-----	6,268	---	6,268	0.4
302	Puye gravelly sandy loam, 3 to 15 percent slopes-----	3,314	105	3,419	0.2
401	Chiminet-Rock outcrop association, 5 to 40 percent slopes-----	726	314	1,040	*

Table 4.--Acreage and proportionate extent of the soils

Map symbol	Soil name	Rio Arriba County	Sandoval County	Total	
				Area	Extent
		<u>Acres</u>	<u>Acres</u>	<u>Acres</u>	<u>Pct.</u>
407	Totavi gravelly loam, 1 to 8 percent slopes--	406	845	1,251	*
704	Chrishall gravelly loam, 1 to 15 percent slopes-----	287	802	1,089	*
710	Calaveras-Palon very gravelly sandy loams, 40 to 80 percent slopes-----	1,513	4,359	5,872	0.4
711	Laventana cobbly loam, 15 to 40 percent slopes-----	17	868	885	*
719	Alanos very cobbly loam, 15 to 50 percent slopes-----	1,099	1,222	2,321	0.1
802	Redondo gravelly sandy clay loam, 5 to 25 percent slopes-----	313	1,190	1,503	*
803	Rusbach cobbly sandy loam, 40 to 80 percent slopes-----	964	2,609	3,573	0.2
DAM	Dam-----	16	---	16	*
W	Water-----	16,301	---	16,301	1.0
	Total-----	1,565,622	15,852	1,581,474	100.0

* Less than 0.1 percent.

Table 5.--Irrigated and nonirrigated yields by map unit component

(Yields in the "N" columns are for nonirrigated areas; those in the "I" columns are for irrigated areas. Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability		Alfalfa hay		Grass hay		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
11: Fruitland-----	7e	2e	---	6.00	---	5.00	---	25.00
12: Pinavetes-----	6c	3s	---	5.00	---	4.50	---	8.00
21: Werlog-----	6w	3w	1.50	3.50	---	---	---	15.00
22: Jocity-----	7e	2e	---	5.00	---	5.00	---	10.00
Gilco-----	7c	3e	---	5.00	---	5.00	---	10.00
23: Gilco-----	7c	3e	---	5.00	---	5.00	---	10.00
24: Jocity-----	7c	1	---	6.00	---	5.50	---	11.00
34: Alcalde-----	6s	4s	---	3.50	---	5.00	---	4.00
39: Fruitland-----	7e	3e	---	5.00	---	4.50	---	20.00

Table 5.--Irrigated and nonirrigated yields by map unit component--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Grass hay		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
61: Colomex-----	6c	4c	---	---	2.50	4.00	1.00	7.00
64: Dula-----	6w	4w	---	---	2.50	4.00	1.00	7.00
65: Doslomas-----	4c	3c	---	---	---	3.50	---	5.00
66: Encicado-----	4c	3c	---	---	2.50	4.00	1.00	7.00
117: Chamita-----	4w	4w	---	---	---	3.50	---	9.00
119: Roques-----	4c	3s	---	---	---	3.50	---	9.00
Nusmag-----	4c	3s	---	---	---	3.50	---	9.00
129: Nusmag-----	4c	3s	---	---	---	3.50	---	9.00
Tottles-----	4w	3w	---	---	---	3.00	---	9.00
133: Carrick-----	3c	3e	---	3.50	---	3.50	---	9.00
151: Razito-----	7s	---	---	---	---	---	---	---
Fruitland-----	7e	3e	---	6.00	---	4.50	---	20.00

Table 5.--Irrigated and nonirrigated yields by map unit component--Continued

Map symbol and soil name	Land capability		Alfalfa hay		Grass hay		Pasture	
	N	I	N	I	N	I	N	I
			<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>Tons</u>	<u>AUM</u>	<u>AUM</u>
170: Sedillo-----	6c	3s	---	3.00	1.00	3.00	2.00	6.00
173: Oelop-----	6c	3e	---	3.50	---	3.50	---	9.00
180: Oelop-----	6c	3e	---	3.50	---	3.50	---	9.00
182: Oelop-----	6c	4e	---	3.00	---	3.00	---	8.00
190: Sedillo-----	6c	3e	---	3.50	1.00	3.50	2.00	6.00

Table 6.--Rangeland productivity

(Only the soils that support rangeland vegetation suitable for grazing are rated. A dashed line indicates either no vegetation or a forested site.)

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
9:				
Pinavetes-----	Sandy	900	600	275
Florita-----	Loamy	1,100	850	600
10:				
Sparank-----	Salty Bottomland	1,500	1,050	600
San Mateo-----	Salty Bottomland	1,500	1,050	600
11:				
Fruitland-----	Sandy	680	470	260
12:				
Pinavetes-----	Deep Sand	900	588	275
18:				
Abiquiu-----	---	3,000	2,250	1,500
Peralta-----	---	3,000	2,250	1,500
20:				
Menefee-----	---	800	600	400
Vessilla-----	---	800	600	400
Rock outcrop-----	---	---	---	---

Table 6.--Rangeland productivity--Continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
21: Werlog-----	Salty Bottomland	1,500	1,050	600
22: Jocity-----	Loamy	950	663	375
Gilco-----	Loamy	950	663	375
23: Gilco-----	Loamy	950	663	375
24: Jocity-----	Loamy	950	663	375
30: San Mateo-----	Salty Bottomland	1,500	1,050	600
31: Gobernador-----	Salty Bottomland	1,500	1,050	600
Orlie-----	Loamy	1,100	850	600
34: Alcalde-----	Clayey	900	600	300
39: Fruitland-----	Sandy	680	470	260
40: Pinitos-----	Loamy	1,100	850	600
Menefee-----	---	800	600	400

Table 6.--Rangeland productivity--Continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
40: Vessilla-----	---	800	600	400
42: Walrees-----	---	3,000	2,250	1,500
Abiquiu-----	---	3,000	2,250	1,500
50: Stout-----	---	800	600	400
Kunz-----	Mountain Grassland	800	600	400
54: Capillo-----	Mountain Valley	600	400	200
60: Sparham-----	Clayey Bottomland	3,232	2,248	1,263
61: Colomex-----	---	800	600	400
64: Dula-----	Mountain Meadow	3,500	2,800	2,400
65: Doslomas-----	Mountain Loam	1,400	1,000	700
66: Encicado-----	Mountain Valley	1,800	1,300	600

Table 6.--Rangeland productivity--Continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
69:				
Lindrith-----	Loamy	1,100	850	600
Royosa-----	Sandy	900	600	275
70:				
Sparham-----	Salt Meadow	2,000	1,600	1,200
80:				
Orlie-----	Loamy	1,100	850	600
Nalivag-----	Loamy	1,100	850	600
102:				
Menefee-----	---	800	600	400
Nalivag-----	Loamy	1,100	850	600
103:				
Orlie-----	Loamy	1,100	850	600
106:				
Amal-----	---	800	600	400
107:				
Berryman-----	Clayey	1,200	900	600
Ruson-----	Swale	1,700	1,250	800
108:				
Peney-----	---	800	600	400

Table 6.--Rangeland productivity--Continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
108: Ransect-----	---	800	600	400
109: Calendar-----	---	800	600	400
110: Vessilla-----	---	800	600	400
Menefee-----	---	800	600	400
Orlie-----	Loamy	1,100	850	600
113: Teromote-----	Loamy	1,100	850	600
Ruson-----	Swale	1,700	1,250	800
115: Menefee-----	---	800	600	400
117: Chamita-----	Mountain Meadow	3,500	2,800	2,400
118: Hesperus-----	Mountain Loam	1,400	1,000	700
Pastorius-----	Mountain Loam	1,400	1,000	700
Chamita-----	Mountain Meadow	3,500	2,800	2,400

Table 6.--Rangeland productivity--Continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
119: Roques-----	Mountain Loam	1,800	1,300	600
Nusmag-----	Mountain Meadow	3,500	2,800	2,400
125: Hogg-----	Mountain Valley	1,800	1,300	600
Mara-----	Mountain Valley	1,800	1,300	600
127: Rombo-----	Mountain Shale	1,200	850	500
Wiggler-----	Mountain Shale	1,200	850	500
129: Nusmag-----	Mountain Meadow	3,500	2,800	2,400
Tottles-----	Mountain Meadow	3,500	2,800	2,400
130: Topetaul-----	---	800	600	400
Hogg-----	Mountain Valley	1,800	1,300	600
132: Stout-----	---	800	600	400
Carjo-----	---	600	400	200
Rock outcrop-----	---	---	---	---

Table 6.--Rangeland productivity--Continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
133: Carrick-----	Mountain Loam	1,400	1,000	700
136: Elpedro-----	Loamy	1,100	850	600
137: Yata-----	---	600	300	200
Eody-----	---	600	300	200
140: Espiritu-----	Gravelly Hills	500	300	200
Wauquie-----	---	1,100	800	500
141: Capillo-----	Mountain Loam	600	400	200
Carjo-----	---	600	400	200
Vamer-----	Mountain Brush	1,200	900	500
142: Pinavetes-----	Sandy Slopes	1,305	630	315
145: Dermala-----	---	---	---	---
Rosced-----	---	1,100	900	700

Table 6.--Rangeland productivity--Continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
146: Parida-----	Gravelly Hills	400	250	100
Palacid-----	Gravelly Hills	400	250	100
147: Dermala-----	---	---	---	---
Chimayo-----	---	---	---	---
148: Chita-----	Loamy	1,100	850	600
149: Yarts-----	---	---	---	---
151: Razito-----	Deep Sand	900	588	275
Fruitland-----	Sandy	680	470	260
170: Sedillo-----	Stony Loam	800	525	250
173: Oelop-----	Loamy	950	663	375
180: Oelop-----	Loamy	950	663	375
182: Oelop-----	Loamy	1,100	850	600

Table 6.--Rangeland productivity--Continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
190: Sedillo-----	Stony Loam	800	525	250
200: Katlon-----	---	600	300	200
201: Lobat-----	---	600	300	200
Abreu-----	---	600	300	200
203: Nabor-----	---	700	400	200
Elbuck-----	---	700	400	200
206: Angostura-----	---	450	350	200
Gromes-----	---	450	350	200
207: Gromes-----	---	450	350	200
Rock outcrop-----	---	---	---	---
208: Ess-----	Subalpine Grassland	1,600	1,200	800
Croftshaw-----	Subalpine Grassland	1,600	1,200	800

Table 6.--Rangeland productivity--Continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
209:				
Crubas-----	Mountain Meadow	3,500	2,800	2,400
Bywell-----	Mountain Meadow	3,500	2,800	2,400
Croftshaw-----	Subalpine Grassland	1,800	1,300	600
210:				
Rock outcrop-----	---	---	---	---
Bracos-----	---	600	300	200
211:				
Angostura-----	---	450	350	200
214:				
Quimera-----	Mountain Brush	1,200	900	500
Vamer-----	Mountain Brush	1,200	900	500
215:				
Saragote-----	---	450	350	200
Ess-----	Subalpine Grassland	1,600	1,200	800
216:				
Angostura-----	---	450	350	200
220:				
Rock outcrop-----	---	---	---	---
Vessilla-----	---	800	600	400

Table 6.--Rangeland productivity--Continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
220: Menefee-----	---	800	600	400
228: Suposo-----	Mountain Shale	1,200	900	500
Brycan-----	Mountain Shale	1,800	1,300	600
230: Badland-----	---	---	---	---
240: Riverwash, gravelly-----	---	---	---	---
241: Florita-----	Gravelly Hills	500	300	200
Rock outcrop-----	---	---	---	---
242: Tinaja-----	---	1,100	800	500
Rock outcrop-----	---	---	---	---
243: Penistaja-----	Loamy	950	663	375
244: Scholle-----	Loamy	950	663	375
Silver-----	Loamy	950	663	375

Table 6.--Rangeland productivity--Continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
245:				
Maia-----	Loamy	950	663	375
Manzano-----	Swale	1,700	1,250	800
246:				
Pena-----	---	1,100	800	500
247:				
Wenota-----	Clayey Bottomland	3,232	2,248	1,263
248:				
Hagerman-----	Loamy	950	663	375
Silver-----	Loamy	950	663	375
249:				
Losmarios-----	Gravelly	900	625	350
302:				
Puye-----	---	900	650	400
401:				
Chiminet-----	---	800	600	400
Rock outcrop-----	---	---	---	---
407:				
Totavi-----	---	900	650	400
704:				
Chrishall-----	Mountain Loam	1,400	1,000	700

Table 6.--Rangeland productivity--Continued

Map symbol and soil name	Ecological site	Total dry-weight production		
		Favorable year	Normal year	Unfavorable year
		<u>Lb./acre</u>	<u>Lb./acre</u>	<u>Lb./acre</u>
710: Calaveras-----	---	700	400	200
Palon-----	---	600	300	200
711: Laventana-----	---	700	400	200
719: Alanos-----	---	800	600	400
802: Redondo-----	---	450	350	200
803: Rusbach-----	---	450	350	200
DAM: Dam-----	---	---	---	---
W: Water-----	---	---	---	---

Table 7.--Forestland productivity

(Only those map units and soils with harvestable trees are shown.)

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
18: Abiquiu-----	Rio Grande cottonwood-----	44	29	Rio Grande cottonwood
Peralta-----	Rio Grande cottonwood-----	45	29	Rio Grande cottonwood
20: Menefee-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
Vessilla-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
40: Menefee-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
Vessilla-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
42: Walrees-----	Rio Grande cottonwood-----	39	14	Rio Grande cottonwood
Abiquiu-----	Rio Grande cottonwood-----	44	29	Rio Grande cottonwood
50: Stout-----	ponderosa pine-----	80	55	ponderosa pine
61: Colomex-----	ponderosa pine-----	80	55	ponderosa pine
102: Menefee-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
106: Amal-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
108: Peney-----	Rocky Mountain juniper----- twoneedle pinyon----	--- ---	--- ---	twoneedle pinyon
Ransect-----	Rocky Mountain juniper----- twoneedle pinyon----	--- ---	--- ---	twoneedle pinyon
109: Calendar-----	Rocky Mountain juniper----- twoneedle pinyon----	--- ---	--- ---	twoneedle pinyon

Table 7.--Forestland productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
110: Vessilla-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
Menefee-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
115: Menefee-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
130: Topetaul-----	ponderosa pine-----	80	55	ponderosa pine
132: Stout-----	ponderosa pine-----	80	55	ponderosa pine
Carjo-----	ponderosa pine-----	60	46	ponderosa pine
	Rocky Mountain juniper-----	5	0	
137: Yata-----	corkbark fir----- Douglas-fir----- Engelmann spruce---- quaking aspen----- white fir-----	50 60 80 60 53	37 49 76 32 102	Douglas-fir
Eody-----	corkbark fir-----	50	37	Douglas-fir
	Douglas-fir-----	60	49	
	Engelmann spruce----	80	76	
	quaking aspen-----	60	32	
	white fir-----	53	102	
140: Wauquie-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
141: Carjo-----	ponderosa pine----- Rocky Mountain juniper-----	60 5	46 0	ponderosa pine
145: Dermala-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
Rosced-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
147: Dermala-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
Chimayo-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
149: Yarts-----	---	---	---	---

Table 7.--Forestland productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
200: Katlon-----	corkbark fir----- Douglas-fir----- Engelmann spruce--- quaking aspen----- white fir-----	50 60 80 60 53	37 49 76 32 102	white fir
201: Lobat-----	corkbark fir----- Douglas-fir----- Engelmann spruce--- quaking aspen----- white fir-----	50 60 80 60 53	37 49 76 32 102	Douglas-fir
Abreu-----	corkbark fir----- Douglas-fir----- Engelmann spruce--- quaking aspen----- white fir-----	50 60 80 60 53	37 49 76 32 102	Douglas-fir
203: Nabor-----	Douglas fir----- ponderosa pine-----	70 80	63 55	ponderosa pine
Elbuck-----	Douglas fir----- ponderosa pine-----	70 80	63 55	ponderosa pine
206: Angostura-----	corkbark fir----- Engelmann spruce---	60 55	49 43	Engelmann spruce
Gromes-----	corkbark fir----- Engelmann spruce---	60 55	49 43	Engelmann spruce
207: Gromes-----	corkbark fir----- Engelmann spruce---	60 55	49 43	Engelmann spruce
210: Bracos-----	corkbark fir----- Douglas-fir----- Engelmann spruce--- quaking aspen----- white fir-----	50 60 80 60 53	37 49 76 32 102	Engelmann spruce
211: Angostura-----	corkbark fir----- Engelmann spruce---	60 55	49 43	Engelmann spruce
215: Saragote-----	corkbark fir----- Engelmann spruce---	60 55	49 43	Engelmann spruce
216: Angostura-----	corkbark fir----- Engelmann spruce---	60 55	49 43	Engelmann spruce
220: Vessilla-----	oneseed juniper----- twoneedle pinyon---	--- ---	--- ---	oneseed juniper, twoneedle pinyon

Table 7.--Forestland productivity--Continued

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
220: Menefee-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
242: Tinaja-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
246: Pena-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
302: Puye-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
401: Chiminet-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
407: Totavi-----	oneseed juniper----- twoneedle pinyon----	--- ---	--- ---	oneseed juniper, twoneedle pinyon
710: Calaveras-----	Douglas fir----- ponderosa pine-----	70 80	63 55	Douglas fir
Palon-----	corkbark fir----- Douglas fir----- Engelmann spruce---- quaking aspen----- white fir-----	50 60 80 60 53	37 49 76 32 102	Douglas fir
711: Laventana-----	Douglas fir----- ponderosa pine-----	70 80	63 55	Douglas-fir
719: Alanos-----	ponderosa pine-----	80	55	ponderosa pine
802: Redondo-----	corkbark fir----- Engelmann spruce----	60 55	49 43	Engelmann spruce
803: Rusbach-----	corkbark fir----- Engelmann spruce----	60 55	49 43	Engelmann spruce

Table 8.--Camp areas, picnic areas, and playgrounds

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9: Pinavetes-----	50	Somewhat limited Too sandy	0.84	Somewhat limited Too sandy	0.84	Very limited Slope Too sandy	1.00 0.84
Florita-----	40	Not limited		Not limited		Somewhat limited Slope	0.50
10: Sparank-----	55	Very limited Sodium content Flooding Dusty Slow water movement	1.00 1.00 0.50 0.45	Very limited Sodium content Dusty Slow water movement	1.00 0.50 0.45	Very limited Sodium content Dusty Slow water movement	1.00 0.50 0.45
San Mateo-----	30	Very limited Sodium content Flooding Dusty	1.00 1.00 0.50	Very limited Sodium content Dusty	1.00 0.50	Very limited Sodium content Dusty	1.00 0.50
11: Fruitland-----	85	Not limited		Not limited		Not limited	

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
12: Pinavetes-----	85	Somewhat limited Too sandy	0.84	Somewhat limited Too sandy	0.84	Somewhat limited Too sandy	0.84
18: Abiquiu-----	50	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
Peralta-----	40	Very limited Flooding Too sandy	1.00 0.92	Somewhat limited Too sandy	0.92	Somewhat limited Too sandy Flooding	0.92 0.60
20: Menefee-----	35	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.41	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.41	Very limited Depth to bedrock Slope Slow water movement	1.00 1.00 0.41
Vessilla-----	30	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	
21: Werlog-----	85	Very limited Flooding	1.00	Not limited		Not limited	

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
22: Jocity-----	50	Not limited		Not limited		Not limited	
Gilco-----	35	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79
23: Gilco-----	85	Not limited		Not limited		Not limited	
24: Jocity-----	85	Not limited		Not limited		Not limited	
30: San Mateo-----	85	Very limited Sodium content Flooding	1.00 1.00	Very limited Sodium content	1.00	Very limited Sodium content	1.00
31: Gobernador-----	50	Very limited Sodium content Slow water movement	1.00 0.41	Very limited Sodium content Slow water movement	1.00 0.41	Very limited Sodium content Slow water movement	1.00 0.41
Orlie-----	40	Somewhat limited Dusty Gravel content	0.50 0.01	Somewhat limited Dusty Gravel content	0.50 0.01	Very limited Gravel content Slope Dusty	1.00 0.88 0.50

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34: Alcalde-----	85	Very limited Salinity Flooding Too clayey Slow water movement	1.00 1.00 0.50 0.45	Very limited Salinity Too clayey Slow water movement	1.00 0.50 0.45	Very limited Salinity Too clayey Slow water movement	1.00 0.50 0.45
39: Fruitland-----	85	Not limited		Not limited		Somewhat limited Gravel content Slope	0.68 0.50
40: Pinitos-----	40	Not limited		Not limited		Very limited Slope	1.00
Menefee-----	20	Very limited Depth to bedrock Slope Slow water movement	1.00 0.84 0.41	Very limited Depth to bedrock Slope Slow water movement	1.00 0.84 0.41	Very limited Depth to bedrock Slope Slow water movement	1.00 1.00 0.41
Vessilla-----	20	Very limited Depth to bedrock Slope	1.00 0.84	Very limited Depth to bedrock Slope	1.00 0.84	Very limited Depth to bedrock Slope Gravel content	1.00 1.00 0.10

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42: Walrees-----	45	Very limited Flooding Salinity	1.00 0.13	Somewhat limited Salinity	0.13	Somewhat limited Flooding Salinity	0.60 0.13
Abiquiu-----	40	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
50: Stout-----	45	Not rated		Not rated		Not rated	
Kunz-----	40	Somewhat limited Slow water movement Slope	0.21 0.16	Somewhat limited Slow water movement Slope	0.21 0.16	Very limited Slope Slow water movement Gravel content	1.00 0.21 0.01
54: Capillo-----	90	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.50

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
60: Sparham-----	85	Very limited Flooding	1.00	Somewhat limited Slow water movement	0.45	Somewhat limited Slow water movement	0.45
		Slow water movement	0.45				
61: Colomex-----	85	Somewhat limited Gravel content	0.38	Somewhat limited Gravel content	0.38	Very limited Gravel content	1.00
64: Dula-----	90	Very limited Depth to saturated zone Flooding	1.00 1.00	Somewhat limited Depth to saturated zone Flooding	0.90 0.40	Very limited Depth to saturated zone Flooding	1.00 1.00
65: Doslomas-----	85	Somewhat limited Slow water movement	0.43	Somewhat limited Slow water movement	0.43	Somewhat limited Slow water movement Gravel content	0.43 0.22
66: Encicado-----	90	Very limited Flooding	1.00	Somewhat limited Slow water movement	0.21	Somewhat limited Flooding	0.60
		Slow water movement	0.21			Slow water movement	0.21

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
69: Lindrith-----	50	Not limited		Not limited		Somewhat limited Slope Gravel content	0.88 0.14
Royosa-----	35	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy Slope	0.95 0.88
70: Sparham-----	80	Very limited Sodium content Salinity Flooding Slow water movement	1.00 1.00 1.00 0.45	Very limited Sodium content Salinity Slow water movement	1.00 1.00 0.45	Very limited Sodium content Salinity Gravel content Slow water movement	1.00 1.00 0.68 0.45
80: Orlie-----	45	Somewhat limited Dusty Gravel content	0.50 0.01	Somewhat limited Dusty Gravel content	0.50 0.01	Very limited Gravel content Slope Dusty	1.00 0.88 0.50
Nalivag-----	35	Not limited		Not limited		Somewhat limited Slope	0.88

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
102: Menefee-----	40	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.41	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.41	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.41
Nalivag-----	40	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Very limited Slope	1.00
103: Orlie-----	80	Somewhat limited Gravel content	0.01	Somewhat limited Gravel content	0.01	Very limited Gravel content Slope	1.00 0.88
106: Amal-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.88 0.50
107: Berryman-----	55	Somewhat limited Dusty Slow water movement	0.50 0.41	Somewhat limited Dusty Slow water movement	0.50 0.41	Very limited Slope Dusty Slow water movement	1.00 0.50 0.41

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
107: Ruson-----	30	Somewhat limited Slow water movement Gravel content	0.41 0.01	Somewhat limited Slow water movement Gravel content	0.41 0.01	Very limited Gravel content Slow water movement	1.00 0.41
108: Peney-----	50	Very limited Depth to bedrock Gravel content Slope	1.00 0.92 0.63	Very limited Depth to bedrock Gravel content Slope	1.00 0.92 0.63	Very limited Gravel content Depth to bedrock Slope	1.00 1.00 1.00
Ransect-----	35	Not limited		Not limited		Somewhat limited Slope Depth to bedrock	0.50 0.01
109: Calendar-----	85	Very limited Slope Gravel content Dusty Slow water movement	1.00 0.95 0.50 0.41	Very limited Slope Gravel content Dusty Slow water movement	1.00 0.95 0.50 0.41	Very limited Gravel content Slope Dusty Slow water movement Depth to bedrock	1.00 1.00 0.50 0.41 0.10

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
110: Vessilla-----	45	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00
Menefee-----	25	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.41	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.41	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.41
Orlie-----	20	Somewhat limited Dusty Gravel content	0.50 0.01	Somewhat limited Dusty Gravel content	0.50 0.01	Very limited Gravel content Slope Dusty	1.00 0.88 0.50
113: Teromote-----	55	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Slope Dusty	0.88 0.50
Ruson-----	25	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.41	Somewhat limited Gravel content Slow water movement	0.99 0.41

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
115: Menefee-----	80	Very limited Slope Depth to bedrock Slow water movement Gravel content	1.00 1.00 0.41 0.22	Very limited Slope Depth to bedrock Slow water movement Gravel content	1.00 1.00 0.41 0.22	Very limited Gravel content Slope Depth to bedrock Slow water movement	1.00 1.00 1.00 0.41
117: Chamita-----	85	Very limited Flooding Depth to saturated zone	1.00 0.98	Somewhat limited Depth to saturated zone Flooding	0.75 0.40	Very limited Flooding Depth to saturated zone	1.00 0.98
118: Hesperus-----	35	Not limited		Not limited		Somewhat limited Slope Gravel content	0.12 0.02
Pastorius-----	25	Not limited		Not limited		Somewhat limited Slope Gravel content	0.12 0.01

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
118: Chamita-----	20	Very limited Flooding	1.00	Somewhat limited Depth to saturated zone	0.75	Very limited Flooding	1.00
		Depth to saturated zone	0.98	Flooding	0.40	Depth to saturated zone	0.98
		Slow water movement	0.21	Slow water movement	0.21	Slow water movement	0.21
119: Roques-----	45	Somewhat limited Slow water movement	0.45	Somewhat limited Slow water movement	0.45	Somewhat limited Slope Slow water movement	0.88 0.45
Nusmag-----	35	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
125: Hogg-----	55	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Very limited Slope Slow water movement Gravel content	1.00 0.96 0.44
Mara-----	30	Not limited		Not limited		Very limited Slope	1.00

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
127: Rombo-----	45	Very limited Slope Too clayey Slow water movement	1.00 0.50 0.41	Very limited Slope Too clayey Slow water movement	1.00 0.50 0.41	Very limited Slope Too clayey Slow water movement Gravel content Depth to bedrock	1.00 0.50 0.41 0.14 0.03
Wiggler-----	40	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.88	Very limited Slope Depth to bedrock Gravel content	1.00 1.00 0.88	Very limited Gravel content Depth to bedrock Slope	1.00 1.00 1.00
129: Nusmag-----	45	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00	Very limited Slow water movement	1.00
Tottles-----	35	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.96	Somewhat limited Slow water movement Depth to saturated zone	0.96 0.75	Somewhat limited Depth to saturated zone Slow water movement	0.98 0.96

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
130: Topetaul-----	45	Somewhat limited Slope Slow water movement Large stones content	0.96 0.96 0.08	Somewhat limited Slope Slow water movement Large stones content	0.96 0.96 0.08	Very limited Slope Slow water movement Gravel content Large stones content	1.00 0.96 0.08 0.08
Hogg-----	35	Somewhat limited Slope Slow water movement	0.96 0.96	Somewhat limited Slope Slow water movement	0.96 0.96	Very limited Slope Slow water movement Gravel content	1.00 0.96 0.44
132: Stout-----	40	Very limited Depth to bedrock Slope Large stones content	1.00 0.84 0.02	Very limited Depth to bedrock Slope Large stones content	1.00 0.84 0.02	Very limited Depth to bedrock Slope Large stones content	1.00 1.00 0.02

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
132: Carjo-----	20	Somewhat limited Slow water movement Slope Large stones content	0.96 0.84 0.23	Somewhat limited Slow water movement Slope Large stones content	0.96 0.84 0.23	Very limited Slope Gravel content Slow water movement Large stones content Depth to bedrock	1.00 0.97 0.96 0.23 0.01
Rock outcrop-----	20	Not rated		Not rated		Not rated	
133: Carrick-----	90	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.12
136: Elpedro-----	80	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.12
137: Yata-----	50	Very limited Slope Slow water movement	1.00 0.96	Very limited Slope Slow water movement	1.00 0.96	Very limited Slope Slow water movement	1.00 0.96

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
137: Eody-----	40	Very limited Slope Slow water movement	1.00 0.96	Very limited Slope Slow water movement	1.00 0.96	Very limited Slope Slow water movement	1.00 0.96
140: Espiritu-----	45	Very limited Slope Dusty Large stones content Gravel content	1.00 0.50 0.20 0.01	Very limited Slope Dusty Large stones content Gravel content	1.00 0.50 0.20 0.01	Very limited Slope Gravel content Dusty Large stones content	1.00 1.00 0.50 0.20
Wauquie-----	35	Very limited Slope Gravel content Dusty Large stones content	1.00 0.55 0.50 0.01	Very limited Slope Gravel content Dusty Large stones content	1.00 0.55 0.50 0.01	Very limited Slope Gravel content Dusty Large stones content	1.00 1.00 0.50 0.01
141: Capillo-----	35	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Very limited Slope Slow water movement	1.00 0.96

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
141: Carjo-----	30	Somewhat limited Slow water movement Large stones content Slope	0.96 0.08 0.04	Somewhat limited Slow water movement Large stones content Slope	0.96 0.08 0.04	Very limited Slope Slow water movement Depth to bedrock Gravel content Large stones content	1.00 0.96 0.35 0.08 0.08
Vamer-----	30	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.96	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.96	Very limited Slope Depth to bedrock Slow water movement Gravel content	1.00 1.00 0.96 0.81
142: Pinavetes-----	85	Somewhat limited Too sandy Slope	0.84 0.01	Somewhat limited Too sandy Slope	0.84 0.01	Very limited Slope Too sandy	1.00 0.84
145: Dermala-----	50	Very limited Slope Gravel content Dusty	1.00 0.93 0.50	Very limited Slope Gravel content Dusty	1.00 0.93 0.50	Very limited Gravel content Slope Dusty	1.00 1.00 0.50

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
145: Rosced-----	35	Very limited Slope Gravel content	1.00 1.00	Very limited Slope Gravel content	1.00 1.00	Very limited Gravel content Slope	1.00 1.00
146: Parida-----	45	Very limited Slope Gravel content	1.00 0.99	Very limited Slope Gravel content	1.00 0.99	Very limited Gravel content Slope	1.00 1.00
Palacid-----	40	Very limited Slope Gravel content	1.00 0.99	Very limited Slope Gravel content	1.00 0.99	Very limited Gravel content Slope	1.00 1.00
147: Dermala-----	45	Very limited Slope Gravel content Dusty	1.00 0.93 0.50	Very limited Slope Gravel content Dusty	1.00 0.93 0.50	Very limited Gravel content Slope Dusty	1.00 1.00 0.50
Chimayo-----	40	Very limited Slope Gravel content Depth to bedrock	1.00 1.00 1.00	Very limited Slope Gravel content Depth to bedrock	1.00 1.00 1.00	Very limited Gravel content Slope Depth to bedrock	1.00 1.00 1.00
148: Chita-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.12

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
149: Yarts-----	80	Not limited		Not limited		Somewhat limited Slope	0.12
151: Razito-----	45	Somewhat limited Too sandy	0.84	Somewhat limited Too sandy	0.84	Somewhat limited Too sandy Slope	0.84 0.12
Fruitland-----	40	Not limited		Not limited		Somewhat limited Gravel content Slope	0.68 0.12
170: Sedillo-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content Dusty Slope	0.80 0.50 0.12
173: Oelop-----	85	Not limited		Not limited		Somewhat limited Slope	0.12
180: Oelop-----	90	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Slope	0.50 0.12

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
182: Oelop-----	90	Not limited		Not limited		Very limited Slope	1.00
190: Sedillo-----	90	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50
200: Katlon-----	85	Not rated		Not rated		Not rated	
201: Lobat-----	45	Not rated		Not rated		Not rated	
Abreu-----	40	Not rated		Not rated		Not rated	
203: Nabor-----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Slow water movement	0.96	Slow water movement	0.96	Slow water movement	0.96
Elbuck-----	30	Somewhat limited Gravel content	0.89	Somewhat limited Gravel content	0.89	Very limited Slope	1.00
		Slope	0.84	Slope	0.84	Gravel content	1.00

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
206: Angostura-----	60	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Gravel content Slow water movement	1.00 0.98 0.21
Gromes-----	25	Very limited Slope Slow water movement Gravel content	1.00 0.21 0.13	Very limited Slope Slow water movement Gravel content	1.00 0.21 0.13	Very limited Slope Gravel content Slow water movement	1.00 1.00 0.21
207: Gromes-----	65	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Slow water movement	1.00 0.21	Very limited Slope Gravel content Slow water movement	1.00 0.34 0.21
Rock outcrop-----	20	Not rated		Not rated		Not rated	
208: Ess-----	45	Somewhat limited Gravel content Slope	0.04 0.04	Somewhat limited Gravel content Slope	0.04 0.04	Very limited Slope Gravel content	1.00 1.00

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
208: Croftshaw-----	35	Somewhat limited Slope Slow water movement	0.63 0.21	Somewhat limited Slope Slow water movement	0.63 0.21	Very limited Slope Gravel content Slow water movement	1.00 0.44 0.21
209: Crubas-----	40	Not rated		Not rated		Not rated	
Bywell-----	30	Very limited Depth to saturated zone Flooding	1.00 1.00	Somewhat limited Depth to saturated zone Flooding	0.94 0.40	Very limited Depth to saturated zone Flooding Gravel content	1.00 1.00 0.44
Croftshaw-----	20	Somewhat limited Slow water movement Slope	0.21 0.16	Somewhat limited Slow water movement Slope	0.21 0.16	Very limited Slope Gravel content Slow water movement	1.00 0.44 0.21
210: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Bracos-----	30	Not rated		Not rated		Not rated	

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
211: Angostura-----	90	Very limited Slope Gravel content	1.00 0.49	Very limited Slope Gravel content	1.00 0.49	Very limited Slope Gravel content	1.00 1.00
214: Quimera-----	60	Very limited Slope Gravel content Depth to bedrock Slow water movement	1.00 1.00 1.00 0.41	Very limited Slope Gravel content Depth to bedrock Slow water movement	1.00 1.00 1.00 0.41	Very limited Gravel content Slope Depth to bedrock Slow water movement	1.00 1.00 1.00 0.41
Vamer-----	25	Very limited Slope Depth to bedrock Slow water movement Large stones content	1.00 1.00 0.96 0.05	Very limited Slope Depth to bedrock Slow water movement Large stones content	1.00 1.00 0.96 0.05	Very limited Slope Depth to bedrock Slow water movement Gravel content Large stones content	1.00 1.00 0.96 0.84 0.05
215: Saragote-----	45	Not rated		Not rated		Not rated	
Ess-----	35	Somewhat limited Gravel content	0.04	Somewhat limited Gravel content	0.04	Very limited Gravel content Slope	1.00 0.88

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
216: Angostura-----	85	Very limited Slope Large stones content	1.00 0.29	Very limited Slope Large stones content	1.00 0.29	Very limited Slope Gravel content Large stones content	1.00 0.68 0.29
220: Rock outcrop-----	40	Not rated		Not rated		Not rated	
Vessilla-----	30	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00
Menefee-----	20	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.41	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.41	Very limited Slope Depth to bedrock Slow water movement	1.00 1.00 0.41
228: Suposo-----	50	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement	0.96	Somewhat limited Slow water movement Slope	0.96 0.50
Brycan-----	35	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
230: Badland-----	90	Not rated		Not rated		Not rated	
240: Riverwash, gravelly-	100	Very limited Depth to saturated zone	1.00	Very limited Too sandy	1.00	Very limited Depth to saturated zone	1.00
		Flooding	1.00	Gravel content	1.00	Too sandy	1.00
		Too sandy	1.00	Depth to saturated zone	0.99	Flooding	1.00
		Gravel content	1.00	Flooding	0.40	Gravel content	1.00
241: Florita-----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Gravel content	0.68	Gravel content	0.68	Gravel content	1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
242: Tinaja-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Gravel content	0.79	Gravel content	0.79	Gravel content	1.00
		Dusty	0.50	Dusty	0.50	Dusty	0.50
		Large stones content	0.18	Large stones content	0.18	Large stones content	0.18
Rock outcrop-----	30	Not rated		Not rated		Not rated	

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
243: Penistaja-----	85	Not limited		Not limited		Somewhat limited Slope	0.88
244: Scholle-----	60	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content Dusty Slope	0.99 0.50 0.12
Silver-----	30	Somewhat limited Dusty Slow water movement	0.50 0.41	Somewhat limited Dusty Slow water movement	0.50 0.41	Somewhat limited Dusty Slow water movement Slope	0.50 0.41 0.12
245: Maia-----	65	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Dusty Gravel content Slope	0.50 0.22 0.12
Manzano-----	20	Very limited Flooding	1.00	Not limited		Somewhat limited Flooding	0.60
246: Pena-----	85	Somewhat limited Gravel content Slope	0.54 0.04	Somewhat limited Gravel content Slope	0.54 0.04	Very limited Gravel content Slope	1.00 1.00

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
247: Wenota-----	85	Very limited Flooding	1.00	Somewhat limited Slow water movement	0.41	Somewhat limited Flooding	0.60
		Slow water movement	0.41			Slope Slow water movement	0.50 0.41
248: Hagerman-----	45	Not limited		Not limited		Somewhat limited Depth to bedrock Slope	0.90 0.88
Silver-----	40	Somewhat limited Slow water movement	0.41	Somewhat limited Slow water movement	0.41	Somewhat limited Slope Slow water movement	0.88 0.41
249: Losmarios-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.61	Large stones content	0.61	Gravel content	1.00
		Slow water movement	0.41	Slow water movement	0.41	Large stones content	0.61
		Gravel content	0.01	Gravel content	0.01	Slow water movement	0.41

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
302: Puye-----	85	Very limited Depth to cemented pan Gravel content Slope	1.00 0.30 0.04	Very limited Depth to cemented pan Gravel content Slope	1.00 0.30 0.04	Very limited Depth to cemented pan Gravel content Slope	1.00 1.00 1.00
401: Chiminet-----	60	Not rated		Not rated		Not rated	
Rock outcrop-----	25	Not rated		Not rated		Not rated	
407: Totavi-----	85	Not rated		Not rated		Not rated	
704: Chrishall-----	80	Very limited Flooding Gravel content Slope	1.00 0.68 0.01	Somewhat limited Gravel content Slope	0.68 0.01	Very limited Gravel content Slope Flooding	1.00 1.00 0.60
710: Calaveras-----	50	Not rated		Not rated		Not rated	
Palon-----	30	Not rated		Not rated		Not rated	

Table 8.--Camp areas, picnic areas, and playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas		Picnic areas		Playgrounds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
711: Laventana-----	80	Very limited Slope Large stones content	1.00 0.01	Very limited Slope Large stones content	1.00 0.01	Very limited Slope Gravel content Large stones content	1.00 0.25 0.01
719: Alanos-----	80	Not rated		Not rated		Not rated	
802: Redondo-----	85	Not rated		Not rated		Not rated	
803: Rusbach-----	85	Not rated		Not rated		Not rated	
DAM: Dam-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Table 9.--Paths, trails, and golf fairways

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9: Pinavetes-----	50	Somewhat limited Too sandy	0.84	Somewhat limited Too sandy	0.84	Somewhat limited Droughty	0.91
Florita-----	40	Not limited		Not limited		Not limited	
10: Sparank-----	55	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Sodium content	1.00
San Mateo-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Sodium content	1.00
11: Fruitland-----	85	Not limited		Not limited		Not limited	
12: Pinavetes-----	85	Somewhat limited Too sandy	0.84	Somewhat limited Too sandy	0.84	Somewhat limited Droughty	0.91
18: Abiquiu-----	50	Not limited		Not limited		Very limited Droughty Flooding	1.00 0.60

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
18: Peralta-----	40	Somewhat limited Too sandy	0.92	Somewhat limited Too sandy	0.92	Somewhat limited Flooding Droughty	0.60 0.01
20: Menefee-----	35	Very limited Water erosion Slope	1.00 0.50	Very limited Water erosion	1.00	Very limited Droughty Depth to bedrock Slope	1.00 1.00 1.00
Vessilla-----	30	Somewhat limited Slope	0.50	Not limited		Very limited Droughty Depth to bedrock Slope Large stones content	1.00 1.00 1.00 0.01
Rock outcrop-----	15	Not rated		Not rated		Not rated	
21: Werlog-----	85	Not limited		Not limited		Not limited	
22: Jocity-----	50	Not limited		Not limited		Not limited	
Gilco-----	35	Somewhat limited Too sandy	0.79	Somewhat limited Too sandy	0.79	Not limited	

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
23: Gilco-----	85	Not limited		Not limited		Not limited	
24: Jocity-----	85	Not limited		Not limited		Not limited	
30: San Mateo-----	85	Not limited		Not limited		Very limited Sodium content	1.00
31: Gobernador-----	50	Not limited		Not limited		Very limited Sodium content Droughty	1.00 0.29
Orlie-----	40	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content	0.01
34: Alcalde-----	85	Somewhat limited Too clayey	0.50	Somewhat limited Too clayey	0.50	Very limited Salinity Too clayey Droughty	1.00 1.00 0.34
39: Fruitland-----	85	Not limited		Not limited		Not limited	
40: Pinitos-----	40	Not limited		Not limited		Not limited	

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
40: Menefee-----	20	Not limited		Not limited		Very limited Depth to bedrock Droughty Slope	1.00 0.99 0.84
Vessilla-----	20	Not limited		Not limited		Very limited Droughty Depth to bedrock Slope Large stones content	1.00 1.00 0.84 0.01
42: Walrees-----	45	Not limited		Not limited		Somewhat limited Flooding Salinity	0.60 0.13
Abiquiu-----	40	Not limited		Not limited		Somewhat limited Droughty Flooding	0.95 0.60
50: Stout-----	45	Not rated		Not rated		Not rated	
Kunz-----	40	Not limited		Not limited		Somewhat limited Slope	0.16

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
54: Capillo-----	90	Not limited		Not limited		Not limited	
60: Sparham-----	85	Not limited		Not limited		Not limited	
61: Colomex-----	85	Not limited		Not limited		Somewhat limited Gravel content Droughty Large stones content	0.38 0.08 0.08
64: Dula-----	90	Somewhat limited Depth to saturated zone Flooding	0.78 0.40	Somewhat limited Depth to saturated zone Flooding	0.78 0.40	Very limited Flooding Depth to saturated zone	1.00 0.90
65: Doslomas-----	85	Not limited		Not limited		Not limited	
66: Encicado-----	90	Not limited		Not limited		Somewhat limited Flooding	0.60
69: Lindrith-----	50	Not limited		Not limited		Not limited	

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
69: Royosa-----	35	Somewhat limited Too sandy	0.95	Somewhat limited Too sandy	0.95	Somewhat limited Droughty	0.69
70: Sparham-----	80	Not limited		Not limited		Very limited Salinity Sodium content Droughty	1.00 1.00 0.09
80: Orlie-----	45	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content	0.01
Nalivag-----	35	Not limited		Not limited		Not limited	
102: Menefee-----	40	Somewhat limited Slope	0.08	Not limited		Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.63
Nalivag-----	40	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.63
103: Orlie-----	80	Not limited		Not limited		Somewhat limited Gravel content	0.01

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
106: Amal-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
107: Berryman-----	55	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Very limited Carbonate content	1.00
Ruson-----	30	Not limited		Not limited		Somewhat limited Gravel content	0.01
108: Peney-----	50	Not limited		Not limited		Very limited Droughty Depth to bedrock Gravel content Slope	1.00 1.00 0.92 0.63
Ransect-----	35	Not limited		Not limited		Very limited Carbonate content Depth to bedrock	1.00 0.01
109: Calendar-----	85	Somewhat limited Slope Dusty	0.50 0.50	Somewhat limited Dusty	0.50	Very limited Slope Gravel content Depth to bedrock	1.00 0.95 0.10

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
110: Vessilla-----	45	Somewhat limited Slope	0.02	Not limited		Very limited Depth to bedrock Slope Droughty Large stones content	1.00 1.00 0.99 0.01
Menefee-----	25	Somewhat limited Slope	0.02	Not limited		Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.99
Orlie-----	20	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Gravel content	0.01
113: Teromote-----	55	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
Ruson-----	25	Not limited		Not limited		Not limited	

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
115: Menefee-----	80	Somewhat limited Slope	0.32	Not limited		Very limited Depth to bedrock Slope Droughty Gravel content Large stones content	1.00 1.00 0.98 0.22 0.01
117: Chamita-----	85	Somewhat limited Depth to saturated zone Flooding	0.44 0.40	Somewhat limited Depth to saturated zone Flooding	0.44 0.40	Very limited Flooding Depth to saturated zone	1.00 0.75
118: Hesperus-----	35	Not limited		Not limited		Not limited	
Pastorius-----	25	Not limited		Not limited		Somewhat limited Large stones content	0.11
Chamita-----	20	Somewhat limited Depth to saturated zone Flooding	0.44 0.40	Somewhat limited Depth to saturated zone Flooding	0.44 0.40	Very limited Flooding Depth to saturated zone	1.00 0.75

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
119: Roques-----	45	Not limited		Not limited		Not limited	
Nusmag-----	35	Not limited		Not limited		Not limited	
125: Hogg-----	55	Not limited		Not limited		Not limited	
Mara-----	30	Not limited		Not limited		Not limited	
127: Rombo-----	45	Somewhat limited Too clayey	0.50	Somewhat limited Too clayey	0.50	Very limited Too clayey Slope Depth to bedrock	1.00 1.00 0.03
Wiggler-----	40	Not limited		Not limited		Very limited Droughty Depth to bedrock Slope Gravel content	1.00 1.00 1.00 0.88
129: Nusmag-----	45	Not limited		Not limited		Not limited	
Tottles-----	35	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.44	Somewhat limited Depth to saturated zone	0.75

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
130: Topetaul-----	45	Somewhat limited Large stones content	0.08	Somewhat limited Large stones content	0.08	Very limited Large stones content Slope Droughty	1.00 0.96 0.29
Hogg-----	35	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.96
132: Stout-----	40	Somewhat limited Large stones content	0.02	Somewhat limited Large stones content	0.02	Very limited Depth to bedrock Large stones content Droughty Slope	1.00 0.99 0.99 0.84
Carjo-----	20	Somewhat limited Large stones content	0.23	Somewhat limited Large stones content	0.23	Very limited Large stones content Slope Depth to bedrock	1.00 0.84 0.01
Rock outcrop-----	20	Not rated		Not rated		Not rated	
133: Carrick-----	90	Not limited		Not limited		Not limited	

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
136: Elpedro-----	80	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
137: Yata-----	50	Very limited Slope Water erosion	1.00 1.00	Very limited Slope Water erosion	1.00 1.00	Very limited Slope	1.00
Eody-----	40	Very limited Slope Water erosion	1.00 1.00	Very limited Slope Water erosion	1.00 1.00	Very limited Slope	1.00
140: Espiritu-----	45	Very limited Slope Dusty Large stones content	1.00 0.50 0.20	Very limited Slope Dusty Large stones content	1.00 0.50 0.20	Very limited Slope Large stones content Droughty Gravel content	1.00 1.00 0.04 0.01
Wauquie-----	35	Very limited Slope Dusty Large stones content	1.00 0.50 0.01	Very limited Slope Dusty Large stones content	1.00 0.50 0.01	Very limited Slope Large stones content Droughty Gravel content	1.00 0.99 0.71 0.55

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
141: Capillo-----	35	Not limited		Not limited		Not limited	
Carjo-----	30	Somewhat limited Large stones content	0.08	Somewhat limited Large stones content	0.08	Very limited Large stones content Depth to bedrock Slope	1.00 0.35 0.04
Vamer-----	30	Somewhat limited Slope	0.18	Not limited		Very limited Depth to bedrock Slope Droughty Large stones content	1.00 1.00 0.51 0.32
142: Pinavetes-----	85	Somewhat limited Too sandy	0.84	Somewhat limited Too sandy	0.84	Somewhat limited Droughty Slope	0.92 0.01
145: Dermala-----	50	Very limited Slope Dusty	1.00 0.50	Somewhat limited Slope Dusty	0.78 0.50	Very limited Slope Gravel content Large stones content	1.00 0.93 0.05

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
145: Rosced-----	35	Very limited Slope	1.00	Somewhat limited Slope	0.78	Very limited Slope Gravel content Droughty Large stones content	1.00 1.00 0.93 0.03
146: Parida-----	45	Very limited Slope	1.00	Not limited		Very limited Slope Gravel content Droughty Large stones content	1.00 0.99 0.14 0.03
Palacid-----	40	Very limited Slope	1.00	Not limited		Very limited Slope Gravel content Large stones content	1.00 0.99 0.03
147: Dermala-----	45	Very limited Slope Dusty	1.00 0.50	Somewhat limited Slope Dusty	0.78 0.50	Very limited Slope Gravel content Large stones content	1.00 0.93 0.05

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
147: Chimayo-----	40	Very limited Slope	1.00	Somewhat limited Slope	0.78	Very limited Slope Droughty Depth to bedrock Gravel content	1.00 1.00 1.00 1.00
148: Chita-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
149: Yarts-----	80	Not limited		Not limited		Not limited	
151: Razito-----	45	Somewhat limited Too sandy	0.84	Somewhat limited Too sandy	0.84	Somewhat limited Droughty	0.69
Fruitland-----	40	Not limited		Not limited		Not limited	
170: Sedillo-----	85	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Large stones content Droughty	0.79 0.01
173: Oelop-----	85	Not limited		Not limited		Not limited	

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
180: Oelop-----	90	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
182: Oelop-----	90	Not limited		Not limited		Not limited	
190: Sedillo-----	90	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Somewhat limited Droughty Large stones content	0.20 0.01
200: Katlon-----	85	Not rated		Not rated		Not rated	
201: Lobat-----	45	Not rated		Not rated		Not rated	
Abreu-----	40	Not rated		Not rated		Not rated	
203: Nabor-----	55	Very limited Water erosion Slope	1.00 0.50	Very limited Water erosion	1.00	Very limited Slope	1.00
Elbuck-----	30	Not limited		Not limited		Somewhat limited Gravel content Slope	0.89 0.84

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
206: Angostura-----	60	Very limited Slope	1.00	Not limited		Very limited Slope Large stones content	1.00 0.79
Gromes-----	25	Somewhat limited Slope	0.50	Not limited		Very limited Slope Gravel content content	1.00 0.13
207: Gromes-----	65	Very limited Slope	1.00	Somewhat limited Slope	0.08	Very limited Slope Large stones content	1.00 0.84
Rock outcrop-----	20	Not rated		Not rated		Not rated	
208: Ess-----	45	Not limited		Not limited		Somewhat limited Large stones content Gravel content Slope	0.20 0.04 0.04
Croftshaw-----	35	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.63

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
209: Crubas-----	40	Not rated		Not rated		Not rated	
Bywell-----	30	Somewhat limited Depth to saturated zone Flooding	0.86 0.40	Somewhat limited Depth to saturated zone Flooding	0.86 0.40	Very limited Flooding Depth to saturated zone Droughty	1.00 0.94 0.16
Croftshaw-----	20	Very limited Water erosion	1.00	Very limited Water erosion	1.00	Somewhat limited Slope	0.16
210: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Bracos-----	30	Not rated		Not rated		Not rated	
211: Angostura-----	90	Very limited Slope	1.00	Somewhat limited Slope	0.08	Very limited Slope Large stones content Gravel content Droughty	1.00 0.79 0.49 0.28

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
214: Quimera-----	60	Very limited Slope	1.00	Not limited		Very limited Slope Depth to bedrock Gravel content Droughty	1.00 1.00 1.00 0.50
Vamer-----	25	Somewhat limited Slope Large stones content	0.92 0.05	Somewhat limited Large stones content	0.05	Very limited Depth to bedrock Large stones content Slope Droughty	1.00 1.00 1.00 0.57
215: Saragote-----	45	Not rated		Not rated		Not rated	
Ess-----	35	Not limited		Not limited		Somewhat limited Large stones content Gravel content	0.20 0.04

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
216: Angostura-----	85	Very limited Slope	1.00	Somewhat limited Large stones content	0.29	Very limited Slope	1.00
		Large stones content	0.29	Slope	0.22	Large stones content Droughty	1.00 0.88
220: Rock outcrop-----	40	Not rated		Not rated		Not rated	
Vessilla-----	30	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope Droughty Depth to bedrock Large stones content	1.00 1.00 1.00 0.01
Menefee-----	20	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope Depth to bedrock Droughty	1.00 1.00 0.99
228: Suposo-----	50	Not limited		Not limited		Not limited	
Brycan-----	35	Not limited		Not limited		Somewhat limited Flooding	0.60

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
230: Badland-----	90	Not rated		Not rated		Not rated	
240: Riverwash, gravelly-	100	Very limited Too sandy Depth to saturated zone Flooding	1.00 0.99 0.40	Very limited Too sandy Depth to saturated zone Flooding	1.00 0.99 0.40	Very limited Flooding Too sandy Droughty Gravel content Depth to saturated zone	1.00 1.00 1.00 0.99
241: Florita-----	55	Very limited Slope	1.00	Somewhat limited Slope	0.22	Very limited Slope Gravel content	1.00 0.68
Rock outcrop-----	25	Not rated		Not rated		Not rated	
242: Tinaja-----	50	Very limited Slope Dusty Large stones content	1.00 0.50 0.18	Very limited Slope Dusty Large stones content	1.00 0.50 0.18	Very limited Slope Large stones content Gravel content Droughty	1.00 1.00 0.79 0.20

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
242: Rock outcrop-----	30	Not rated		Not rated		Not rated	
243: Penistaja-----	85	Not limited		Not limited		Not limited	
244: Scholle-----	60	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
Silver-----	30	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
245: Maia-----	65	Somewhat limited Dusty	0.50	Somewhat limited Dusty	0.50	Not limited	
Manzano-----	20	Not limited		Not limited		Somewhat limited Flooding	0.60
246: Pena-----	85	Not limited		Not limited		Somewhat limited Droughty Gravel content Slope	0.90 0.54 0.04
247: Wenota-----	85	Not limited		Not limited		Somewhat limited Flooding	0.60

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
248: Hagerman-----	45	Not limited		Not limited		Somewhat limited Depth to bedrock Droughty	0.90 0.02
Silver-----	40	Not limited		Not limited		Not limited	
249: Losmarios-----	85	Somewhat limited Slope Large stones content	0.92 0.61	Somewhat limited Large stones content	0.61	Very limited Large stones content Slope Gravel content	1.00 1.00 0.01
302: Puye-----	85	Not limited		Not limited		Very limited Depth to cemented pan Droughty Gravel content Slope Large stones content	1.00 1.00 0.30 0.04 0.01
401: Chiminet-----	60	Not rated		Not rated		Not rated	
Rock outcrop-----	25	Not rated		Not rated		Not rated	

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
407: Totavi-----	85	Not rated		Not rated		Not rated	
704: Chrishall-----	80	Not limited		Not limited		Somewhat limited Gravel content Flooding Slope	0.68 0.60 0.01
710: Calaveras-----	50	Not rated		Not rated		Not rated	
Palon-----	30	Not rated		Not rated		Not rated	
711: Laventana-----	80	Very limited Slope Large stones content	1.00 0.01	Somewhat limited Slope Large stones content	0.08 0.01	Very limited Slope Large stones content Droughty	1.00 0.97 0.01
719: Alanos-----	80	Not rated		Not rated		Not rated	
802: Redondo-----	85	Not rated		Not rated		Not rated	
803: Rusbach-----	85	Not rated		Not rated		Not rated	

Table 9.--Paths, trails, and golf fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
DAM: Dam-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Table 10.--Dwellings and small commercial buildings

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9: Pinavetes-----	50	Not limited		Not limited		Somewhat limited Slope	0.50
Florita-----	40	Not limited		Not limited		Not limited	
10: Sparank-----	55	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00
San Mateo-----	30	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50
11: Fruitland-----	85	Not limited		Not limited		Not limited	
12: Pinavetes-----	85	Not limited		Not limited		Not limited	

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
18: Abiquiu-----	50	Very limited Flooding Large stones content	1.00 0.28	Very limited Flooding Depth to saturated zone Large stones content	1.00 0.95 0.28	Very limited Flooding Large stones content	1.00 0.28
Peralta-----	40	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.99	Very limited Flooding	1.00
20: Menefee-----	35	Very limited Slope	1.00	Very limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Shrink-swell Depth to soft bedrock	0.50 0.50	Slope Shrink-swell	1.00 0.50	Slope Shrink-swell	1.00 0.50
Vessilla-----	30	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope	1.00 1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
21: Werlog-----	85	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.99 0.50	Very limited Flooding Shrink-swell	1.00 0.50
22: Jocity-----	50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Gilco-----	35	Not limited		Not limited		Not limited	
23: Gilco-----	85	Not limited		Not limited		Not limited	
24: Jocity-----	85	Not limited		Somewhat limited Shrink-swell	0.50	Not limited	
30: San Mateo-----	85	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50
31: Gobernador-----	50	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31: Orlie-----	40	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
34: Alcalde-----	85	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00
39: Fruitland-----	85	Not limited		Not limited		Not limited	
40: Pinitos-----	40	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Slope Shrink-swell	0.50 0.50
Menefee-----	20	Somewhat limited Slope Shrink-swell Depth to soft bedrock	0.84 0.50 0.50	Very limited Depth to soft bedrock Slope Shrink-swell	1.00 0.84 0.50	Very limited Depth to soft bedrock Slope Shrink-swell	1.00 1.00 0.50
Vessilla-----	20	Very limited Depth to hard bedrock Slope	1.00 0.84	Very limited Depth to hard bedrock Slope	1.00 0.84	Very limited Depth to hard bedrock Slope	1.00 1.00

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42: Walrees-----	45	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.82	Very limited Flooding	1.00
Abiquiu-----	40	Very limited Flooding	1.00	Very limited Flooding Depth to saturated zone	1.00 0.95	Very limited Flooding	1.00
50: Stout-----	45	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Organic matter content	1.00	Slope	0.16	Slope	1.00
		Slope	0.16			Organic matter content	1.00
Kunz-----	40	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Very limited Slope	1.00
		Slope	0.16	Slope	0.16	Shrink-swell	0.50
54: Capillo-----	90	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
60: Sparham-----	85	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell Depth to saturated zone	1.00 1.00 0.35	Very limited Flooding Shrink-swell	1.00 1.00
61: Colomex-----	85	Somewhat limited Shrink-swell Large stones content	0.50 0.05	Somewhat limited Large stones content	0.05	Somewhat limited Shrink-swell Large stones content	0.50 0.05
64: Dula-----	90	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
65: Doslomas-----	85	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
66: Encicado-----	90	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
69: Lindrith-----	50	Not limited		Not limited		Somewhat limited Slope	0.12
Royosa-----	35	Not limited		Not limited		Somewhat limited Slope	0.12
70: Sparham-----	80	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00	Very limited Flooding Shrink-swell	1.00 1.00
80: Orlie-----	45	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
Nalivag-----	35	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
102: Menefee-----	40	Very limited Slope Shrink-swell Depth to soft bedrock	1.00 0.50 0.50	Very limited Depth to soft bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to soft bedrock Shrink-swell	1.00 1.00 0.50

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
102: Nalivag-----	40	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
103: Orlie-----	80	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
106: Amal-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
107: Berryman-----	55	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.50 0.50
Ruson-----	30	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
108: Peney-----	50	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 0.63 0.50	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 0.63 0.50	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 1.00 0.50

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
108: Ransect-----	35	Somewhat limited Shrink-swell	0.50	Very limited Depth to hard bedrock	1.00	Somewhat limited Shrink-swell	0.50
		Depth to hard bedrock	0.01	Shrink-swell	0.50	Depth to hard bedrock	0.01
109: Calendar-----	85	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
				Depth to soft bedrock	0.10		
110: Vessilla-----	45	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slope	1.00	Slope	1.00	Slope	1.00
Menefee-----	25	Very limited Slope	1.00	Very limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Shrink-swell	0.50	Slope	1.00	Slope	1.00
		Depth to soft bedrock	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
110: Orlie-----	20	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
113: Teromote-----	55	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell Slope	0.50 0.12
Ruson-----	25	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
115: Menefee-----	80	Very limited Slope	1.00	Very limited Depth to soft bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Shrink-swell	0.50	Slope	1.00	Slope	1.00
		Depth to soft bedrock	0.50	Shrink-swell	0.50	Shrink-swell	0.50
117: Chamita-----	85	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
		Depth to saturated zone	0.98	Depth to saturated zone	1.00	Depth to saturated zone	0.98
		Shrink-swell	0.50	Shrink-swell	0.50	Shrink-swell	0.50

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
118: Hesperus-----	35	Not limited		Not limited		Not limited	
Pastorius-----	25	Somewhat limited Large stones content	0.18	Somewhat limited Large stones content	0.18	Somewhat limited Large stones content	0.18
Chamita-----	20	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.98 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 0.98 0.50
119: Roques-----	45	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell Slope	1.00 0.12
Nusmag-----	35	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.24	Very limited Shrink-swell	1.00
125: Hogg-----	55	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell Slope	1.00 0.50

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
125: Mara-----	30	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Slope Shrink-swell	0.88 0.50
127: Rombo-----	45	Very limited Shrink-swell Slope	1.00 1.00	Very limited Shrink-swell Slope Depth to soft bedrock	1.00 1.00 0.03	Very limited Shrink-swell Slope	1.00 1.00
Wiggler-----	40	Very limited Slope Shrink-swell Depth to soft bedrock	1.00 0.50 0.50	Very limited Depth to soft bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Depth to soft bedrock Slope Shrink-swell	1.00 1.00 0.50
129: Nusmag-----	45	Very limited Shrink-swell	1.00	Very limited Shrink-swell Depth to saturated zone	1.00 0.24	Very limited Shrink-swell	1.00

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
129: Tottles-----	35	Very limited Shrink-swell	1.00	Very limited Depth to saturated zone	1.00	Very limited Shrink-swell	1.00
		Depth to saturated zone	0.98	Shrink-swell	1.00	Depth to saturated zone	0.98
130: Topetaul-----	45	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
		Slope	0.96	Slope	0.96	Slope	1.00
		Large stones content	0.31	Large stones content	0.31	Large stones content	0.31
Hogg-----	35	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
		Slope	0.96	Slope	0.96	Slope	1.00
132: Stout-----	40	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slope	0.84	Slope	0.84	Slope	1.00

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
132: Carjo-----	20	Very limited Shrink-swell Slope Depth to hard bedrock	1.00 0.84 0.01	Very limited Shrink-swell Depth to hard bedrock Slope	1.00 1.00 0.84	Very limited Shrink-swell Slope Depth to hard bedrock	1.00 1.00 0.01
Rock outcrop-----	20	Not rated		Not rated		Not rated	
133: Carrick-----	90	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
136: Elpedro-----	80	Somewhat limited Shrink-swell	0.50	Not limited		Somewhat limited Shrink-swell	0.50
137: Yata-----	50	Very limited Slope Shrink-swell Large stones content	1.00 1.00 0.01	Very limited Slope Shrink-swell Large stones content	1.00 1.00 0.01	Very limited Slope Shrink-swell Large stones content	1.00 1.00 0.01
Eody-----	40	Very limited Slope Shrink-swell	1.00 1.00	Very limited Slope Shrink-swell	1.00 1.00	Very limited Slope Shrink-swell	1.00 1.00

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
140: Espiritu-----	45	Very limited Slope Large stones content	1.00 0.28	Very limited Slope Large stones content	1.00 0.28	Very limited Slope Large stones content	1.00 0.28
Wauquie-----	35	Very limited Slope Large stones content	1.00 0.37	Very limited Slope Large stones content	1.00 0.37	Very limited Slope Large stones content	1.00 0.37
141: Capillo-----	35	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell Slope	1.00 0.88
Carjo-----	30	Very limited Shrink-swell Depth to hard bedrock Slope	1.00 0.35 0.04	Very limited Shrink-swell Depth to hard bedrock Slope	1.00 1.00 0.04	Very limited Shrink-swell Slope Depth to hard bedrock	1.00 1.00 0.35
Vamer-----	30	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.50

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
142: Pinavetes-----	85	Somewhat limited Slope	0.01	Somewhat limited Slope	0.01	Very limited Slope	1.00
145: Dermala-----	50	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00
Rosced-----	35	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
146: Parida-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Palacid-----	40	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
147: Dermala-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Chimayo-----	40	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
148: Chita-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
149: Yarts-----	80	Not limited		Not limited		Not limited	
151: Razito-----	45	Not limited		Not limited		Not limited	
Fruitland-----	40	Not limited		Not limited		Not limited	
170: Sedillo-----	85	Somewhat limited Shrink-swell Large stones content	0.50 0.33	Somewhat limited Shrink-swell Large stones content	0.50 0.33	Somewhat limited Shrink-swell Large stones content	0.50 0.33
173: Oelop-----	85	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
180: Oelop-----	90	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
182: Oelop-----	90	Not limited		Not limited		Somewhat limited Slope	0.88

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
190: Sedillo-----	90	Somewhat limited Large stones content Shrink-swell	0.59 0.50	Somewhat limited Large stones content	0.59	Somewhat limited Large stones content Shrink-swell	0.59 0.50
200: Katlon-----	85	Very limited Slope	1.00	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope	1.00
201: Lobat-----	45	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell	1.00 0.50
Abreu-----	40	Very limited Slope Shrink-swell	1.00 0.50	Very limited Slope Shrink-swell Depth to hard bedrock	1.00 0.50 0.01	Very limited Slope Shrink-swell	1.00 0.50
203: Nabor-----	55	Very limited Shrink-swell Slope	1.00 1.00	Very limited Shrink-swell Slope	1.00 1.00	Very limited Shrink-swell Slope	1.00 1.00
Elbuck-----	30	Somewhat limited Slope	0.84	Somewhat limited Slope	0.84	Very limited Slope	1.00

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
206: Angostura-----	60	Very limited Slope Large stones content	1.00 0.30	Very limited Slope Large stones content	1.00 0.30	Very limited Slope Large stones content	1.00 0.30
Gromes-----	25	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.19	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.19	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.19
207: Gromes-----	65	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.14	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.14	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.14
Rock outcrop-----	20	Not rated		Not rated		Not rated	
208: Ess-----	45	Somewhat limited Shrink-swell Slope Large stones content	0.50 0.04 0.02	Somewhat limited Shrink-swell Slope Large stones content	0.50 0.04 0.02	Very limited Slope Shrink-swell Large stones content	1.00 0.50 0.02

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
208: Croftshaw-----	35	Somewhat limited Slope Shrink-swell	0.63 0.50	Somewhat limited Slope Shrink-swell	0.63 0.50	Very limited Slope Shrink-swell	1.00 0.50
209: Crubas-----	40	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Shrink-swell	1.00 1.00 1.00
Bywell-----	30	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Croftshaw-----	20	Somewhat limited Shrink-swell Slope	0.50 0.16	Somewhat limited Slope	0.16	Very limited Slope Shrink-swell	1.00 0.50
210: Rock outcrop-----	60	Not rated		Not rated		Not rated	

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
210: Bracos-----	30	Very limited Slope Large stones content Depth to hard bedrock	1.00 1.00 0.29	Very limited Slope Depth to hard bedrock Large stones content	1.00 1.00 1.00	Very limited Slope Large stones content Depth to hard bedrock	1.00 1.00 0.29
211: Angostura-----	90	Very limited Slope Large stones content	1.00 0.26	Very limited Slope Large stones content	1.00 0.26	Very limited Slope Large stones content	1.00 0.26
214: Quimera-----	60	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.50
Vamer-----	25	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to hard bedrock Shrink-swell	1.00 1.00 0.50

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
215: Saragote-----	45	Very limited Shrink-swell Large stones content	1.00 0.08	Very limited Shrink-swell Depth to saturated zone Large stones content	1.00 0.99 0.08	Very limited Shrink-swell Large stones content	1.00 0.08
Ess-----	35	Somewhat limited Shrink-swell Large stones content	0.50 0.04	Somewhat limited Shrink-swell Large stones content	0.50 0.04	Somewhat limited Shrink-swell Slope Large stones content	0.50 0.12 0.04
216: Angostura-----	85	Very limited Slope Large stones content	1.00 0.65	Very limited Slope Large stones content	1.00 0.65	Very limited Slope Large stones content	1.00 0.65
220: Rock outcrop-----	40	Not rated		Not rated		Not rated	
Vessilla-----	30	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00	Very limited Slope Depth to hard bedrock	1.00 1.00

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
220: Menefee-----	20	Very limited Slope Shrink-swell Depth to soft bedrock	1.00 0.50 0.50	Very limited Slope Depth to soft bedrock Shrink-swell	1.00 1.00 0.50	Very limited Slope Depth to soft bedrock Shrink-swell	1.00 1.00 0.50
228: Suposo-----	50	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
Brycan-----	35	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00
230: Badland-----	90	Not rated		Not rated		Not rated	
240: Riverwash, gravelly-	100	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
241: Florita-----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
242: Tinaja-----	50	Very limited Slope Large stones content	1.00 0.93	Very limited Slope Large stones content	1.00 0.93	Very limited Slope Large stones content	1.00 0.93
Rock outcrop-----	30	Not rated		Not rated		Not rated	
243: Penistaja-----	85	Not limited		Not limited		Somewhat limited Slope	0.12
244: Scholle-----	60	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50	Somewhat limited Shrink-swell	0.50
Silver-----	30	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00
245: Maia-----	65	Not limited		Not limited		Not limited	
Manzano-----	20	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Flooding	1.00

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
246: Pena-----	85	Somewhat limited Large stones content Slope	0.58 0.04	Somewhat limited Large stones content Slope	0.58 0.04	Very limited Slope Large stones content	1.00 0.58
247: Wenota-----	85	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50	Very limited Flooding Shrink-swell	1.00 0.50
248: Hagerman-----	45	Somewhat limited Depth to hard bedrock Shrink-swell	0.90 0.50	Very limited Depth to hard bedrock Shrink-swell	1.00 0.50	Somewhat limited Depth to hard bedrock Shrink-swell Slope	0.90 0.50 0.12
Silver-----	40	Very limited Shrink-swell	1.00	Very limited Shrink-swell	1.00	Very limited Shrink-swell Slope	1.00 0.12
249: Losmarios-----	85	Very limited Shrink-swell Slope	1.00 1.00	Very limited Shrink-swell Slope	1.00 1.00	Very limited Slope Shrink-swell	1.00 1.00

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
302: Puye-----	85	Somewhat limited Depth to thin cemented pan Slope	0.50 0.04	Very limited Depth to thin cemented pan Slope	1.00 0.04	Very limited Depth to thin cemented pan Slope	1.00 1.00
401: Chiminet-----	60	Very limited Slope Organic matter content Depth to soft bedrock	1.00 1.00 0.50	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope Organic matter content	1.00 1.00 1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
407: Totavi-----	85	Not limited		Not limited		Somewhat limited Slope	0.12
704: Chrishall-----	80	Very limited Flooding Slope	1.00 0.01	Very limited Flooding Slope	1.00 0.01	Very limited Flooding Slope	1.00 1.00

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
710: Calaveras-----	50	Very limited Slope Large stones content	1.00 0.99	Very limited Slope Large stones content	1.00 0.99	Very limited Slope Large stones content	1.00 0.99
Palon-----	30	Very limited Slope Large stones content	1.00 0.01	Very limited Slope Large stones content	1.00 0.01	Very limited Slope Large stones content	1.00 0.01
711: Laventana-----	80	Very limited Slope Large stones content	1.00 0.99	Very limited Slope Large stones content	1.00 0.99	Very limited Slope Large stones content	1.00 0.99
719: Alanos-----	80	Very limited Slope Shrink-swell Large stones content	1.00 1.00 0.65	Very limited Slope Large stones content	1.00 0.65	Very limited Slope Shrink-swell Large stones content	1.00 1.00 0.65
802: Redondo-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00

Table 10.--Dwellings and small commercial buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
803: Rusbach-----	85	Very limited Slope Large stones content	1.00 0.01	Very limited Slope Large stones content	1.00 0.01	Very limited Slope Large stones content	1.00 0.01
DAM: Dam-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9: Pinavetes-----	50	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.91
Florita-----	40	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
10: Sparank-----	55	Very limited Low strength Shrink-swell Flooding	1.00 1.00 0.40	Somewhat limited Cutbanks cave Too clayey	0.10 0.03	Very limited Sodium content	1.00
San Mateo-----	30	Somewhat limited Shrink-swell Flooding	0.50 0.40	Somewhat limited Cutbanks cave	0.10	Very limited Sodium content	1.00
11: Fruitland-----	85	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
12: Pinavetes-----	85	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.91

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
18: Abiquiu-----	50	Very limited Flooding Large stones content	1.00 0.28	Very limited Cutbanks cave Depth to saturated zone Flooding Large stones content	1.00 0.95 0.60 0.28	Very limited Droughty Flooding	1.00 0.60
Peralta-----	40	Very limited Flooding	1.00	Very limited Cutbanks cave Depth to saturated zone Flooding	1.00 0.99 0.60	Somewhat limited Flooding Droughty	0.60 0.01
20: Menefee-----	35	Very limited Depth to soft bedrock Slope Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Droughty Depth to bedrock Slope	1.00 1.00 1.00

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
20: Vessilla-----	30	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Droughty Depth to bedrock Slope Large stones content	1.00 1.00 1.00 0.01
Rock outcrop-----	15	Not rated		Not rated		Not rated	
21: Werlog-----	85	Very limited Low strength Shrink-swell Flooding	1.00 0.50 0.40	Very limited Cutbanks cave Depth to saturated zone	1.00 0.99	Not limited	
22: Jocity-----	50	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
Gilco-----	35	Not limited		Very limited Cutbanks cave	1.00	Not limited	
23: Gilco-----	85	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
24: Jocity-----	85	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
30: San Mateo-----	85	Very limited Low strength Shrink-swell Flooding	1.00 0.50 0.40	Somewhat limited Cutbanks cave	0.10	Very limited Sodium content	1.00
31: Gobernador-----	50	Very limited Low strength Shrink-swell	1.00 1.00	Somewhat limited Too clayey Cutbanks cave	0.12 0.10	Very limited Sodium content Droughty	1.00 0.29
Orlie-----	40	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Somewhat limited Gravel content	0.01
34: Alcalde-----	85	Very limited Low strength Shrink-swell Flooding	1.00 1.00 0.40	Somewhat limited Too clayey Cutbanks cave	0.45 0.10	Very limited Salinity Too clayey Droughty	1.00 1.00 0.34
39: Fruitland-----	85	Not limited		Very limited Cutbanks cave	1.00	Not limited	

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
40: Pinitos-----	40	Somewhat limited Shrink-swell Frost action Low strength	0.50 0.50 0.22	Somewhat limited Cutbanks cave	0.10	Not limited	
Menefee-----	20	Somewhat limited Depth to soft bedrock Slope Shrink-swell Frost action	1.00 0.84 0.50 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 0.84 0.10	Very limited Depth to bedrock Droughty Slope	1.00 0.99 0.84
Vessilla-----	20	Very limited Depth to hard bedrock Slope	1.00 0.84	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 0.84 0.10	Very limited Droughty Depth to bedrock Slope Large stones content	1.00 1.00 0.84 0.01
42: Walrees-----	45	Very limited Flooding	1.00	Very limited Cutbanks cave Depth to saturated zone Flooding	1.00 0.82 0.60	Somewhat limited Flooding Salinity	0.60 0.13

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42: Abiquiu-----	40	Very limited Flooding	1.00	Very limited Cutbanks cave Depth to saturated zone Flooding	1.00 0.95 0.60	Somewhat limited Droughty Flooding	0.95 0.60
50: Stout-----	45	Very limited Depth to hard bedrock Slope	1.00 0.16	Very limited Depth to hard bedrock Slope	1.00 0.16	Not rated	
Kunz-----	40	Somewhat limited Shrink-swell Frost action Slope	0.50 0.50 0.16	Somewhat limited Slope Cutbanks cave	0.16 0.10	Somewhat limited Slope	0.16
54: Capillo-----	90	Very limited Low strength Shrink-swell	1.00 1.00	Somewhat limited Cutbanks cave	0.10	Not limited	
60: Sparham-----	85	Very limited Low strength Shrink-swell Flooding	1.00 1.00 0.40	Somewhat limited Depth to saturated zone Too clayey Cutbanks cave	0.35 0.12 0.10	Not limited	

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
61: Colomex-----	85	Somewhat limited Shrink-swell Frost action Large stones content	 0.50 0.50 0.05	Very limited Cutbanks cave Large stones content	 1.00 0.05	Somewhat limited Gravel content Droughty Large stones content	 0.38 0.08 0.08
64: Dula-----	90	Very limited Frost action Flooding Depth to saturated zone Low strength	 1.00 1.00 0.90 0.78	Very limited Depth to saturated zone Cutbanks cave Flooding	 1.00 1.00 0.80	Very limited Flooding Depth to saturated zone	 1.00 0.90
65: Doslomas-----	85	Very limited Low strength Shrink-swell	 1.00 0.50	Very limited Cutbanks cave	 1.00	Not limited	
66: Encicado-----	90	Very limited Flooding Low strength Shrink-swell Frost action	 1.00 1.00 0.50 0.50	Somewhat limited Flooding Cutbanks cave	 0.60 0.10	Somewhat limited Flooding	 0.60

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
69: Lindrith-----	50	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Royosa-----	35	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.69
70: Sparham-----	80	Very limited Shrink-swell Low strength Flooding	1.00 1.00 0.40	Somewhat limited Too clayey Cutbanks cave	0.28 0.10	Very limited Salinity Sodium content Droughty	1.00 1.00 0.09
80: Orlie-----	45	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Somewhat limited Gravel content	0.01
Nalivag-----	35	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
102: Menefee-----	40	Very limited Depth to soft bedrock Low strength Slope Shrink-swell Frost action	1.00 1.00 1.00 0.50 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.63
Nalivag-----	40	Very limited Low strength Slope Shrink-swell Frost action	1.00 0.63 0.50 0.50	Somewhat limited Slope Cutbanks cave	0.63 0.10	Somewhat limited Slope	0.63
103: Orlie-----	80	Somewhat limited Shrink-swell Frost action	0.50 0.50	Somewhat limited Cutbanks cave	0.10	Somewhat limited Gravel content	0.01
106: Amal-----	85	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
107: Berryman-----	55	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Very limited Carbonate content	1.00
Ruson-----	30	Very limited Low strength Shrink-swell	1.00 1.00	Somewhat limited Too clayey Cutbanks cave	0.12 0.10	Somewhat limited Gravel content	0.01
108: Peney-----	50	Very limited Depth to hard bedrock Slope Shrink-swell Frost action	1.00 0.63 0.50 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 0.63 0.10	Very limited Droughty Depth to bedrock Gravel content Slope	1.00 1.00 0.92 0.63
Ransect-----	35	Very limited Low strength Shrink-swell Frost action Depth to hard bedrock	1.00 0.50 0.50 0.01	Very limited Depth to hard bedrock Cutbanks cave	1.00 0.10	Very limited Carbonate content Depth to bedrock	1.00 0.01

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
109: Calendar-----	85	Very limited Low strength Shrink-swell Slope	1.00 1.00 1.00	Very limited Slope Cutbanks cave Depth to soft bedrock Too clayey	1.00 0.10 0.10 0.03	Very limited Slope Gravel content Depth to bedrock	1.00 0.95 0.10
110: Vessilla-----	45	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty Large stones content	1.00 1.00 0.99 0.01
Menefee-----	25	Very limited Depth to soft bedrock Slope Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty	1.00 1.00 0.99
Orlie-----	20	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Somewhat limited Cutbanks cave	0.10	Somewhat limited Gravel content	0.01

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
113: Teromote-----	55	Very limited Low strength Shrink-swell Frost action	 1.00 0.50 0.50	Somewhat limited Cutbanks cave	 0.10	Not limited	
Ruson-----	25	Very limited Low strength Shrink-swell	 1.00 1.00	Somewhat limited Too clayey Cutbanks cave	 0.12 0.10	Not limited	
115: Menefee-----	80	Very limited Depth to soft bedrock Low strength Slope Shrink-swell Frost action	 1.00 1.00 1.00 0.50 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	 1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty Gravel content Large stones content	 1.00 1.00 0.98 0.22 0.01

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
117: Chamita-----	85	Very limited Frost action	1.00	Very limited Depth to saturated zone	1.00	Very limited Flooding	1.00
		Flooding	1.00	Cutbanks cave	1.00	Depth to saturated zone	0.75
		Low strength	1.00	Flooding	0.80		
		Depth to saturated zone	0.75				
		Shrink-swell	0.50				
118: Hesperus-----	35	Very limited Low strength	1.00	Somewhat limited Cutbanks cave	0.10	Not limited	
		Frost action	0.50				
Pastorius-----	25	Somewhat limited Frost action	0.50	Somewhat limited Large stones content	0.18	Somewhat limited Large stones content	0.11
		Large stones content	0.18	Cutbanks cave	0.10		

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
118: Chamita-----	20	Very limited Frost action	1.00	Very limited Depth to saturated zone	1.00	Very limited Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.75
		Low strength	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
		Shrink-swell	0.50				
119: Roques-----	45	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Too clayey	0.28		
		Shrink-swell	1.00	Cutbanks cave	0.10		
Nusmag-----	35	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Too clayey	0.28		
		Shrink-swell	1.00	Depth to saturated zone	0.24		
				Cutbanks cave	0.10		
125: Hogg-----	55	Very limited		Somewhat limited		Not limited	
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Low strength	1.00				

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
125: Mara-----	30	Very limited Low strength Shrink-swell Frost action	 1.00 0.50 0.50	Somewhat limited Cutbanks cave	 0.10	Not limited	
127: Rombo-----	45	Very limited Low strength Shrink-swell Slope Frost action	 1.00 1.00 1.00 0.50	Very limited Slope Too clayey Cutbanks cave Depth to soft bedrock	 1.00 0.12 0.10 0.03	Very limited Too clayey Slope Depth to bedrock	 1.00 1.00 0.03
Wiggler-----	40	Very limited Depth to soft bedrock Slope Shrink-swell Frost action	 1.00 1.00 0.50 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	 1.00 1.00 0.10	Very limited Droughty Depth to bedrock Slope Gravel content	 1.00 1.00 1.00 0.88
129: Nusmag-----	45	Very limited Low strength Shrink-swell	 1.00 1.00	Somewhat limited Too clayey Depth to saturated zone Cutbanks cave	 0.28 0.24 0.10	Not limited	

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
129: Tottles-----	35	Very limited Frost action	1.00	Very limited Depth to saturated zone	1.00	Somewhat limited Depth to saturated zone	0.75
		Low strength	1.00	Too clayey	0.28		
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Depth to saturated zone	0.75				
130: Topetaul-----	45	Very limited Shrink-swell	1.00	Very limited Cutbanks cave	1.00	Very limited Large stones content	1.00
		Slope	0.96	Slope	0.96	Slope	0.96
		Low strength	0.78	Large stones content	0.31	Droughty	0.29
		Large stones content	0.31	Too clayey	0.03		
Hogg-----	35	Very limited Shrink-swell	1.00	Very limited Cutbanks cave	1.00	Somewhat limited Slope	0.96
		Low strength	1.00	Slope	0.96		
		Slope	0.96				

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
132: Stout-----	40	Very limited Depth to hard bedrock Slope	1.00 0.84	Very limited Depth to hard bedrock Slope	1.00 0.84	Very limited Depth to bedrock Large stones content Droughty Slope	1.00 0.99 0.99 0.84
Carjo-----	20	Very limited Low strength Shrink-swell Slope Frost action Depth to hard bedrock	1.00 1.00 0.84 0.50 0.01	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 0.84 0.10	Very limited Large stones content Slope Depth to bedrock	1.00 0.84 0.01
Rock outcrop-----	20	Not rated		Not rated		Not rated	
133: Carrick-----	90	Very limited Low strength Shrink-swell Frost action	1.00 1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
136: Elpedro-----	80	Very limited Low strength Shrink-swell Frost action	 1.00 0.50 0.50	Somewhat limited Cutbanks cave	 0.10	Not limited	
137: Yata-----	50	Very limited Slope Frost action Low strength Shrink-swell Large stones content	 1.00 1.00 1.00 1.00 0.01	Very limited Slope Too clayey Cutbanks cave Large stones content	 1.00 0.12 0.10 0.01	Very limited Slope	1.00
Eody-----	40	Very limited Slope Low strength Shrink-swell Frost action	 1.00 1.00 1.00 0.50	Very limited Slope Cutbanks cave	 1.00 0.10	Very limited Slope	1.00
140: Espiritu-----	45	Very limited Slope Frost action Large stones content	 1.00 0.50 0.28	Very limited Slope Large stones content Cutbanks cave	 1.00 0.28 0.10	Very limited Slope Large stones content Droughty Gravel content	 1.00 1.00 0.04 0.01

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
140: Wauquie-----	35	Very limited Slope Frost action Large stones content	1.00 0.50 0.37	Very limited Slope Large stones content Cutbanks cave	1.00 0.37 0.10	Very limited Slope Large stones content Droughty Gravel content	1.00 0.99 0.71 0.55
141: Capillo-----	35	Very limited Low strength Shrink-swell	1.00 1.00	Somewhat limited Cutbanks cave	0.10	Not limited	
Carjo-----	30	Very limited Low strength Shrink-swell Frost action Depth to hard bedrock Slope	1.00 1.00 0.50 0.35 0.04	Very limited Depth to hard bedrock Cutbanks cave Slope Too clayey	1.00 0.10 0.04 0.03	Very limited Large stones content Depth to bedrock Slope	1.00 0.35 0.04

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
141: Vamer-----	30	Very limited Depth to hard bedrock Low strength Slope Shrink-swell Frost action	1.00 1.00 1.00 0.50 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Slope Droughty Large stones content	1.00 1.00 0.51 0.32
142: Pinavetes-----	85	Somewhat limited Slope	0.01	Very limited Cutbanks cave Slope	1.00 0.01	Somewhat limited Droughty Slope	0.92 0.01
145: Dermala-----	50	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Gravel content Large stones content	1.00 0.93 0.05
Rosced-----	35	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Gravel content Droughty Large stones content	1.00 1.00 0.93 0.03

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
146: Parida-----	45	Very limited Slope	1.00	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Gravel content Droughty Large stones content	1.00 0.99 0.14 0.03
Palacid-----	40	Very limited Slope Low strength Shrink-swell	1.00 1.00 0.50	Very limited Cutbanks cave Slope	1.00 1.00	Very limited Slope Gravel content Large stones content	1.00 0.99 0.03
147: Dermala-----	45	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Very limited Slope Gravel content Large stones content	1.00 0.93 0.05
Chimayo-----	40	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Slope Droughty Depth to bedrock Gravel content	1.00 1.00 1.00 1.00

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
148: Chita-----	85	Very limited Low strength Shrink-swell Frost action	1.00 0.50 0.50	Very limited Cutbanks cave	1.00	Not limited	
149: Yarts-----	80	Somewhat limited Frost action	0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
151: Razito-----	45	Not limited		Very limited Cutbanks cave	1.00	Somewhat limited Droughty	0.69
Fruitland-----	40	Not limited		Very limited Cutbanks cave	1.00	Not limited	
170: Sedillo-----	85	Somewhat limited Shrink-swell Frost action Large stones content	0.50 0.50 0.33	Somewhat limited Large stones content Cutbanks cave	0.33 0.10	Somewhat limited Large stones content Droughty	0.79 0.01
173: Oelop-----	85	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
180: Oelop-----	90	Very limited Low strength Shrink-swell	1.00 0.50	Somewhat limited Cutbanks cave	0.10	Not limited	
182: Oelop-----	90	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
90: Sedillo-----	90	Somewhat limited Large stones content Shrink-swell Frost action	0.59 0.50 0.50	Somewhat limited Large stones content Cutbanks cave	0.59 0.10	Somewhat limited Droughty Large stones content	0.20 0.01
200: Katlon-----	85	Very limited Slope Frost action Low strength	1.00 1.00 1.00	Very limited Slope Cutbanks cave	1.00 0.10	Not rated	
201: Lobat-----	45	Very limited Slope Low strength Shrink-swell Frost action	1.00 0.78 0.50 0.50	Very limited Slope Cutbanks cave	1.00 1.00	Not rated	

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
201: Abreu-----	40	Very limited Slope Shrink-swell Frost action	1.00 0.50 0.50	Very limited Slope Cutbanks cave Depth to hard bedrock	1.00 1.00 0.01	Not rated	
203: Nabor-----	55	Very limited Low strength Shrink-swell Slope Frost action	1.00 1.00 1.00 0.50	Very limited Slope Too clayey Cutbanks cave	1.00 0.12 0.10	Very limited Slope	1.00
Elbuck-----	30	Somewhat limited Slope Frost action	0.84 0.50	Very limited Cutbanks cave Slope	1.00 0.84	Somewhat limited Gravel content Slope	0.89 0.84
206: Angostura-----	60	Very limited Slope Frost action Large stones content	1.00 0.50 0.30	Very limited Slope Large stones content Cutbanks cave	1.00 0.30 0.10	Very limited Slope Large stones content	1.00 0.79

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
206: Gromes-----	25	Very limited Slope Shrink-swell Frost action Large stones content	1.00 0.50 0.50 0.19	Very limited Slope Large stones content Cutbanks cave	1.00 0.19 0.10	Very limited Slope Gravel content Large stones content	1.00 0.13 0.01
207: Gromes-----	65	Very limited Slope Shrink-swell Frost action Large stones content	1.00 0.50 0.50 0.14	Very limited Slope Large stones content Cutbanks cave	1.00 0.14 0.10	Very limited Slope Large stones content	1.00 0.84
Rock outcrop-----	20	Not rated		Not rated		Not rated	

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
208: Ess-----	45	Somewhat limited Shrink-swell	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Large stones content	0.20
		Frost action	0.50	Slope	0.04	Gravel content	0.04
		Slope	0.04	Large stones content	0.02	Slope	0.04
		Large stones content	0.02				
Croftshaw-----	35	Very limited Low strength	1.00	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63
		Slope	0.63	Cutbanks cave	0.10		
		Shrink-swell	0.50				
		Frost action	0.50				
209: Crubas-----	40	Very limited Frost action	1.00	Very limited Depth to saturated zone	1.00	Not rated	
		Flooding	1.00	Cutbanks cave	1.00		
		Low strength	1.00	Flooding	0.80		
		Shrink-swell	1.00	Too clayey	0.12		
		Depth to saturated zone	0.99				

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
209: Bywell-----	30	Very limited Frost action	1.00	Very limited Depth to saturated zone	1.00	Very limited Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	0.94
		Depth to saturated zone	0.94	Cutbanks cave	0.10	Droughty	0.16
Croftshaw-----	20	Very limited Low strength	1.00	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16
		Shrink-swell	0.50	Cutbanks cave	0.10		
		Frost action	0.50				
		Slope	0.16				
210: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Bracos-----	30	Very limited Slope	1.00	Very limited Depth to hard bedrock	1.00	Not rated	
		Large stones content	1.00	Slope	1.00		
		Frost action	0.50	Large stones content	1.00		
		Depth to hard bedrock	0.29	Cutbanks cave	0.10		

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
211: Angostura-----	90	Very limited Slope Frost action Large stones content	1.00 0.50 0.26	Very limited Slope Large stones content Cutbanks cave	1.00 0.26 0.10	Very limited Slope Large stones content Gravel content Droughty	1.00 0.79 0.49 0.28
214: Quimera-----	60	Very limited Depth to hard bedrock Slope Low strength Shrink-swell	1.00 1.00 1.00 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Slope Depth to bedrock Gravel content Droughty	1.00 1.00 1.00 0.50
Vamer-----	25	Very limited Depth to hard bedrock Low strength Slope Shrink-swell Frost action	1.00 1.00 1.00 0.50 0.50	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Depth to bedrock Large stones content Slope Droughty	1.00 1.00 1.00 0.57

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
215: Saragote-----	45	Very limited Frost action	1.00	Somewhat limited Depth to saturated zone	0.99	Not rated	
		Shrink-swell	1.00	Cutbanks cave	0.10		
		Low strength	1.00	Large stones content	0.08		
		Large stones content	0.08				
Ess-----	35	Somewhat limited Shrink-swell	0.50	Very limited Cutbanks cave	1.00	Somewhat limited Large stones content	0.20
		Frost action	0.50	Large stones content	0.04	Gravel content	0.04
		Large stones content	0.04				
216: Angostura-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.65	Large stones content	0.65	Large stones content	1.00
		Frost action	0.50	Cutbanks cave	0.10	Droughty	0.88
220: Rock outcrop-----	40	Not rated		Not rated		Not rated	

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
220: Vessilla-----	30	Very limited Depth to hard bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Slope Droughty Depth to bedrock Large stones content	1.00 1.00 1.00 0.01
Menefee-----	20	Very limited Slope Depth to soft bedrock Shrink-swell Frost action	1.00 1.00 0.50 0.50	Very limited Depth to soft bedrock Slope Cutbanks cave	1.00 1.00 0.10	Very limited Slope Depth to bedrock Droughty	1.00 1.00 0.99
228: Suposo-----	50	Very limited Low strength Shrink-swell Frost action	1.00 1.00 0.50	Somewhat limited Too clayey Cutbanks cave	0.28 0.10	Not limited	
Brycan-----	35	Very limited Flooding Low strength Frost action	1.00 1.00 0.50	Somewhat limited Flooding Cutbanks cave	0.60 0.10	Somewhat limited Flooding	0.60

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
230: Badland-----	90	Not rated		Not rated		Not rated	
240: Riverwash, gravelly-	100	Very limited Flooding	1.00	Very limited Depth to saturated zone	1.00	Very limited Flooding	1.00
		Depth to saturated zone	0.99	Cutbanks cave Flooding	1.00 0.80	Too sandy Droughty Gravel content Depth to saturated zone	1.00 1.00 1.00 0.99
241: Florita-----	55	Very limited Slope	1.00	Very limited Slope Cutbanks cave	1.00 0.10	Very limited Slope Gravel content	1.00 0.68
Rock outcrop-----	25	Not rated		Not rated		Not rated	
242: Tinaja-----	50	Very limited Slope Large stones content	1.00 0.93	Very limited Slope Large stones content Cutbanks cave	1.00 0.93 0.10	Very limited Slope Large stones content Gravel content Droughty	1.00 1.00 0.79 0.20
Rock outcrop-----	30	Not rated		Not rated		Not rated	

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
243: Penistaja-----	85	Not limited		Somewhat limited Cutbanks cave	0.10	Not limited	
244: Scholle-----	60	Somewhat limited Shrink-swell	0.50	Very limited Cutbanks cave	1.00	Not limited	
Silver-----	30	Very limited Low strength Shrink-swell	1.00 1.00	Somewhat limited Cutbanks cave	0.10	Not limited	
245: Maia-----	65	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not limited	
Manzano-----	20	Very limited Flooding Low strength Frost action	1.00 0.78 0.50	Very limited Cutbanks cave Flooding	1.00 0.60	Somewhat limited Flooding	0.60
246: Pena-----	85	Somewhat limited Large stones content Frost action Slope	0.58 0.50 0.04	Somewhat limited Large stones content Cutbanks cave Slope	0.58 0.10 0.04	Somewhat limited Droughty Gravel content Slope	0.90 0.54 0.04

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
247: Wenota-----	85	Very limited Flooding Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Flooding Cutbanks cave	 0.60 0.10	Somewhat limited Flooding	 0.60
248: Hagerman-----	45	Somewhat limited Depth to hard bedrock Shrink-swell	 0.90 0.50	Very limited Depth to hard bedrock Cutbanks cave	 1.00 0.10	Somewhat limited Depth to bedrock Droughty	 0.90 0.02
Silver-----	40	Very limited Low strength Shrink-swell	 1.00 1.00	Somewhat limited Cutbanks cave	 0.10	Not limited	
249: Losmarios-----	85	Very limited Low strength Shrink-swell Slope	 1.00 1.00 1.00	Very limited Slope Too clayey Cutbanks cave	 1.00 0.72 0.10	Very limited Large stones content Slope Gravel content	 1.00 1.00 0.01

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
302: Puye-----	85	Somewhat limited Depth to thin cemented pan Slope	1.00 0.04	Very limited Depth to thin cemented pan Cutbanks cave Slope	1.00 1.00 0.04	Very limited Depth to cemented pan Droughty Gravel content Slope Large stones content	1.00 1.00 0.30 0.04 0.01
401: Chiminet-----	60	Very limited Depth to soft bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00	Not rated	
Rock outcrop-----	25	Not rated		Not rated		Not rated	
407: Totavi-----	85	Somewhat limited Frost action	0.50	Very limited Cutbanks cave	1.00	Not rated	
704: Chrishall-----	80	Very limited Flooding Frost action Slope	1.00 0.50 0.01	Very limited Cutbanks cave Flooding Slope	1.00 0.60 0.01	Somewhat limited Gravel content Flooding Slope	0.68 0.60 0.01

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
710: Calaveras-----	50	Very limited Slope Large stones content Frost action	1.00 0.99 0.50	Very limited Slope Large stones content Cutbanks cave	1.00 0.99 0.10	Not rated	
Palon-----	30	Very limited Slope Large stones content	1.00 0.01	Very limited Slope Cutbanks cave Large stones content	1.00 1.00 0.01	Not rated	
711: Laventana-----	80	Very limited Slope Large stones content Frost action	1.00 0.99 0.50	Very limited Slope Large stones content Cutbanks cave	1.00 0.99 0.10	Very limited Slope Large stones content Droughty	1.00 0.97 0.01

Table 11.--Roads and streets, shallow excavations, and lawns and landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
719: Alanos-----	80	Very limited Slope Shrink-swell Low strength Large stones content Frost action	1.00 1.00 1.00 0.65 0.50	Very limited Slope Large stones content Too clayey Cutbanks cave	1.00 0.65 0.12 0.10	Not rated	
802: Redondo-----	85	Very limited Slope Frost action	1.00 0.50	Very limited Slope Cutbanks cave	1.00 0.10	Not rated	
803: Rusbach-----	85	Very limited Slope Large stones content	1.00 0.01	Very limited Slope Cutbanks cave Large stones content	1.00 1.00 0.01	Not rated	
DAM: Dam-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Table 12.--Sewage disposal

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
9: Pinavetes-----	50	Very limited Filtering capacity	1.00	Very limited Seepage Slope	1.00 0.92
Florita-----	40	Not limited		Very limited Seepage Slope	1.00 0.32
10: Sparank-----	55	Very limited Slow water movement Flooding	1.00 0.40	Somewhat limited Flooding	0.40
San Mateo-----	30	Very limited Slow water movement Flooding	1.00 0.40	Somewhat limited Flooding	0.40
11: Fruitland-----	85	Not limited		Very limited Seepage	1.00
12: Pinavetes-----	85	Very limited Filtering capacity	1.00	Very limited Seepage	1.00
18: Abiquiu-----	50	Very limited Flooding Depth to saturated zone Filtering capacity Seepage, bottom layer Large stones content	1.00 1.00 1.00 1.00 0.28	Very limited Flooding Seepage Depth to saturated zone Large stones content	1.00 1.00 1.00 0.30
Peralta-----	40	Very limited Flooding Depth to saturated zone Slow water movement	1.00 1.00 0.46	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 0.53
20: Menefee-----	35	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00

Table 12.--Sewage disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
20: Vessilla-----	30	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Slope	1.00
		Slope	1.00	Seepage	0.27
Rock outcrop-----	15	Not rated		Not rated	
21: Werlog-----	85	Very limited Depth to saturated zone	1.00	Very limited Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Slow water movement	1.00	Flooding	0.40
		Flooding	0.40		
22: Jocity-----	50	Very limited Slow water movement	1.00	Somewhat limited Seepage	0.53
Gilco-----	35	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage	0.53
23: Gilco-----	85	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage	0.53
24: Jocity-----	85	Very limited Slow water movement	1.00	Somewhat limited Seepage	0.53
30: San Mateo-----	85	Very limited Slow water movement	1.00	Somewhat limited Flooding	0.40
		Flooding	0.40		
31: Gobernador-----	50	Very limited Slow water movement	1.00	Not limited	
Orlie-----	40	Very limited Slow water movement	1.00	Somewhat limited Slope	0.68
34: Alcalde-----	85	Very limited Slow water movement	1.00	Somewhat limited Flooding	0.40
		Flooding	0.40		

Table 12.--Sewage disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
39: Fruitland-----	85	Not limited		Very limited Seepage Slope	1.00 0.32
40: Pinitos-----	40	Somewhat limited Slow water movement	0.46	Very limited Seepage Slope	1.00 0.92
Menefee-----	20	Very limited Depth to bedrock Slope	1.00 0.84	Very limited Depth to soft bedrock Slope	1.00 1.00
Vessilla-----	20	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.84	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.27
42: Walrees-----	45	Very limited Flooding Depth to saturated zone Filtering capacity Seepage, bottom layer	1.00 1.00 1.00 1.00	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 0.99
Abiquiu-----	40	Very limited Flooding Depth to saturated zone Filtering capacity Seepage, bottom layer	1.00 1.00 1.00 1.00	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00
50: Stout-----	45	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.16	Very limited Depth to hard bedrock Seepage Slope	1.00 1.00 1.00
Kunz-----	40	Very limited Slow water movement Slope	1.00 0.16	Very limited Slope	1.00
54: Capillo-----	90	Very limited Slow water movement	1.00	Somewhat limited Slope	0.32

Table 12.--Sewage disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
60: Sparham-----	85	Very limited Slow water movement Seepage, bottom layer Depth to saturated zone Flooding	1.00 1.00 0.84 0.40	Very limited Seepage Flooding Depth to saturated zone	1.00 0.40 0.17
61: Colomex-----	85	Very limited Seepage, bottom layer Slow water movement Large stones content	1.00 0.46 0.05	Very limited Seepage Large stones content	1.00 0.01
64: Dula-----	90	Very limited Flooding Depth to saturated zone Seepage, bottom layer Slow water movement	1.00 1.00 1.00 0.46	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00
65: Doslomas-----	85	Very limited Seepage, bottom layer Slow water movement	1.00 1.00	Very limited Seepage	1.00
66: Encicado-----	90	Very limited Flooding Slow water movement	1.00 1.00	Very limited Flooding	1.00
69: Lindrith-----	50	Very limited Seepage, bottom layer	1.00	Very limited Seepage Slope	1.00 0.68
Royosa-----	35	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage Slope	1.00 0.68
70: Sparham-----	80	Very limited Slow water movement Flooding	1.00 0.40	Somewhat limited Flooding	0.40

Table 12.--Sewage disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
80: Orlie-----	45	Very limited Slow water movement	1.00	Somewhat limited Slope	0.68
Nalivag-----	35	Very limited Slow water movement	1.00	Somewhat limited Slope	0.68
102: Menefee-----	40	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
Nalivag-----	40	Very limited Slow water movement	1.00	Very limited Slope	1.00
		Slope	0.63		
103: Orlie-----	80	Very limited Slow water movement	1.00	Somewhat limited Slope	0.68
106: Amal-----	85	Very limited Slow water movement	1.00	Somewhat limited Slope	0.68
107: Berryman-----	55	Very limited Slow water movement	1.00	Somewhat limited Slope	0.92
Ruson-----	30	Very limited Slow water movement	1.00	Not limited	
108: Peney-----	50	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slope	0.63	Slope	1.00
Ransect-----	35	Very limited Slow water movement	1.00	Very limited Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	0.32
109: Calendar-----	85	Very limited Slow water movement	1.00	Very limited Depth to soft bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	1.00		

Table 12.--Sewage disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
110: Vessilla-----	45	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slope	1.00	Slope	1.00
Menefee-----	25	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
Orlie-----	20	Very limited Slow water movement	1.00	Somewhat limited Slope	0.68
113: Teromote-----	55	Very limited Slow water movement	1.00	Somewhat limited Slope	0.68
Ruson-----	25	Very limited Slow water movement	1.00	Not limited	
115: Menefee-----	80	Very limited Depth to bedrock	1.00	Very limited Depth to soft bedrock	1.00
		Slope	1.00	Slope	1.00
117: Chamita-----	85	Very limited Flooding	1.00	Very limited Flooding	1.00
		Depth to saturated zone	1.00	Seepage	1.00
		Seepage, bottom layer	1.00	Depth to saturated zone	1.00
		Slow water movement	0.72		
118: Hesperus-----	35	Somewhat limited Slow water movement	0.72	Somewhat limited Seepage	0.28
				Slope	0.08
Pastorius-----	25	Somewhat limited Slow water movement	0.46	Somewhat limited Seepage	0.53
		Large stones content	0.18	Slope	0.08
Chamita-----	20	Very limited Flooding	1.00	Very limited Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Slow water movement	0.72	Seepage	0.28

Table 12.--Sewage disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
119: Roques-----	45	Very limited Slow water movement	1.00	Somewhat limited Slope	0.68
Nusmag-----	35	Very limited Slow water movement Depth to saturated zone	1.00 0.65	Somewhat limited Depth to saturated zone	0.02
125: Hogg-----	55	Very limited Slow water movement	1.00	Somewhat limited Slope	0.92
Mara-----	30	Very limited Slow water movement	1.00	Very limited Slope	1.00
127: Rombo-----	45	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00
Wiggler-----	40	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00
129: Nusmag-----	45	Very limited Slow water movement Depth to saturated zone	1.00 0.65	Somewhat limited Depth to saturated zone	0.02
Tottles-----	35	Very limited Slow water movement Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone	1.00
130: Topetaul-----	45	Very limited Slow water movement Slope Large stones content	1.00 0.96 0.31	Very limited Slope Large stones content Seepage	1.00 0.99 0.53
Hogg-----	35	Very limited Slow water movement Slope	1.00 0.96	Very limited Slope	1.00

Table 12.--Sewage disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
132: Stout-----	40	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Seepage, bottom layer	1.00	Seepage	1.00
		Slope	0.84	Slope	1.00
Carjo-----	20	Very limited Slow water movement	1.00	Very limited Depth to hard bedrock	1.00
		Depth to bedrock	1.00	Slope	1.00
		Slope	0.84	Seepage	0.27
Rock outcrop-----	20	Not rated		Not rated	
133: Carrick-----	90	Very limited Slow water movement	1.00	Somewhat limited Slope	0.08
136: Elpedro-----	80	Very limited Slow water movement	1.00	Somewhat limited Seepage Slope	0.53 0.08
137: Yata-----	50	Very limited Slow water movement	1.00	Very limited Slope	1.00
		Slope	1.00		
		Large stones content	0.01		
Eody-----	40	Very limited Slow water movement	1.00	Very limited Slope	1.00
		Slope	1.00		
140: Espiritu-----	45	Very limited Slope	1.00	Very limited Slope	1.00
		Slow water movement	0.46	Seepage	1.00
		Large stones content	0.28	Large stones content	0.99
Wauquie-----	35	Very limited Slope	1.00	Very limited Slope	1.00
		Large stones content	0.37	Seepage	1.00
				Large stones content	0.83
141: Capillo-----	35	Very limited Slow water movement	1.00	Very limited Slope	1.00

Table 12.--Sewage disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
141: Carjo-----	30	Very limited Slow water movement Depth to bedrock Slope	1.00 1.00 0.04	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.27
Vamer-----	30	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.27
142: Pinavetes-----	85	Very limited Filtering capacity Slope	1.00 0.01	Very limited Seepage Slope	1.00 1.00
145: Dermala-----	50	Very limited Slope Slow water movement	1.00 1.00	Very limited Slope Seepage	1.00 0.53
Rosced-----	35	Very limited Slope	1.00	Very limited Slope Seepage	1.00 1.00
146: Parida-----	45	Very limited Slope	1.00	Very limited Slope Seepage	1.00 1.00
Palacid-----	40	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope Seepage	1.00 0.53
147: Dermala-----	45	Very limited Slope Slow water movement	1.00 0.46	Very limited Slope Seepage	1.00 0.53
Chimayo-----	40	Very limited Depth to bedrock Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 1.00
148: Chita-----	85	Very limited Slow water movement	1.00	Somewhat limited Seepage Slope	0.53 0.08

Table 12.--Sewage disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
149: Yarts-----	80	Not limited		Very limited Seepage Slope	1.00 0.08
151: Razito-----	45	Very limited Filtering capacity	1.00	Very limited Seepage Slope	1.00 0.08
Fruitland-----	40	Not limited		Very limited Seepage Slope	1.00 0.08
170: Sedillo-----	85	Very limited Slow water movement Large stones content	1.00 0.33	Very limited Seepage Large stones content Slope	1.00 0.61 0.08
173: Oelop-----	85	Very limited Slow water movement	1.00	Very limited Seepage Slope	1.00 0.08
180: Oelop-----	90	Very limited Slow water movement	1.00	Somewhat limited Slope	0.08
182: Oelop-----	90	Somewhat limited Slow water movement	0.46	Very limited Slope Seepage	1.00 0.53
190: Sedillo-----	90	Very limited Slow water movement Large stones content	1.00 0.59	Very limited Seepage Large stones content	1.00 0.29
200: Katlon-----	85	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope Seepage	1.00 0.53
201: Lobat-----	45	Very limited Slope Slow water movement	1.00 1.00	Very limited Slope	1.00

Table 12.--Sewage disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
201: Abreu-----	40	Very limited Slope Slow water movement Depth to bedrock	1.00 1.00 0.36	Very limited Slope Seepage Depth to hard bedrock	1.00 0.53 0.01
203: Nabor-----	55	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope	1.00
Elbuck-----	30	Somewhat limited Slope Slow water movement	0.84 0.46	Very limited Slope Seepage	1.00 0.53
206: Angostura-----	60	Very limited Slope Slow water movement Large stones content	1.00 1.00 0.30	Very limited Slope Large stones content Seepage	1.00 0.97 0.53
Gromes-----	25	Very limited Slope Slow water movement Large stones content	1.00 1.00 0.19	Very limited Slope Large stones content	1.00 0.79
207: Gromes-----	65	Very limited Slope Slow water movement Large stones content	1.00 1.00 0.14	Very limited Slope Large stones content	1.00 0.60
Rock outcrop-----	20	Not rated		Not rated	
208: Ess-----	45	Somewhat limited Slow water movement Slope Large stones content	0.46 0.04 0.02	Very limited Slope Seepage Large stones content	1.00 0.53 0.01
Croftshaw-----	35	Very limited Slow water movement Slope	1.00 0.63	Very limited Slope	1.00

Table 12.--Sewage disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
209: Crubas-----	40	Very limited Flooding Slow water movement Depth to saturated zone	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00
Bywell-----	30	Very limited Flooding Depth to saturated zone Seepage, bottom layer	1.00 1.00 1.00	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00
Croftshaw-----	20	Very limited Seepage, bottom layer Slow water movement Slope	1.00 1.00 0.16	Very limited Seepage Slope	1.00 1.00
210: Rock outcrop-----	60	Not rated		Not rated	
Bracos-----	30	Very limited Slope Seepage, bottom layer Depth to bedrock Large stones content	1.00 1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Seepage Large stones content	1.00 1.00 1.00 1.00
211: Angostura-----	90	Very limited Slope Slow water movement Large stones content	1.00 0.46 0.26	Very limited Slope Large stones content Seepage	1.00 0.86 0.53
214: Quimera-----	60	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.27
Vamer-----	25	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.27

Table 12.--Sewage disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
215: Saragote-----	45	Very limited Slow water movement Depth to saturated zone Large stones content	1.00 1.00 0.08	Very limited Depth to saturated zone Slope Large stones content	1.00 0.32 0.01
Ess-----	35	Somewhat limited Slow water movement Large stones content	0.46 0.04	Somewhat limited Slope Seepage Large stones content	0.68 0.53 0.03
216: Angostura-----	85	Very limited Slope Large stones content Slow water movement	1.00 0.65 0.46	Very limited Slope Large stones content Seepage	1.00 1.00 0.53
220: Rock outcrop-----	40	Not rated		Not rated	
Vessilla-----	30	Very limited Depth to bedrock Slope Seepage, bottom layer	1.00 1.00 1.00	Very limited Depth to hard bedrock Slope Seepage	1.00 1.00 0.27
Menefee-----	20	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to soft bedrock Slope	1.00 1.00
228: Suposo-----	50	Very limited Slow water movement	1.00	Somewhat limited Slope	0.32
Brycan-----	35	Very limited Flooding Slow water movement	1.00 0.46	Very limited Flooding Seepage	1.00 0.53
230: Badland-----	90	Not rated		Not rated	
240: Riverwash, gravelly-	100	Very limited Flooding Depth to saturated zone Filtering capacity	1.00 1.00 1.00	Very limited Flooding Seepage Depth to saturated zone	1.00 1.00 1.00

Table 12.--Sewage disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
241: Florita-----	55	Very limited Slope	1.00	Very limited Slope Seepage	1.00 1.00
Rock outcrop-----	25	Not rated		Not rated	
242: Tinaja-----	50	Very limited Slope Large stones content Slow water movement	1.00 0.93 0.46	Very limited Slope Seepage Large stones content	1.00 1.00 1.00
Rock outcrop-----	30	Not rated		Not rated	
243: Penistaja-----	85	Not limited		Very limited Seepage Slope	1.00 0.68
244: Scholle-----	60	Very limited Slow water movement	1.00	Somewhat limited Seepage Slope	0.53 0.08
Silver-----	30	Very limited Slow water movement	1.00	Somewhat limited Seepage Slope	0.53 0.08
245: Maia-----	65	Very limited Slow water movement	1.00	Very limited Seepage Slope	1.00 0.08
Manzano-----	20	Very limited Flooding Seepage, bottom layer Slow water movement	1.00 1.00 0.46	Very limited Flooding Seepage	1.00 1.00
246: Pena-----	85	Somewhat limited Large stones content Slope	0.58 0.04	Very limited Seepage Slope Large stones content	1.00 1.00 0.97
247: Wenota-----	85	Very limited Flooding Slow water movement	1.00 1.00	Very limited Flooding Slope	1.00 0.32

Table 12.--Sewage disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
248: Hagerman-----	45	Very limited Depth to bedrock	1.00	Very limited Depth to hard bedrock	1.00
		Slow water movement	0.46	Slope Seepage	0.68 0.53
Silver-----	40	Very limited Slow water movement	1.00	Somewhat limited Slope	0.68
249: Losmarios-----	85	Very limited Slow water movement Slope	1.00 1.00	Very limited Slope	1.00
302: Puye-----	85	Very limited Depth to cemented pan Seepage, bottom layer Slope	1.00 1.00 0.04	Very limited Depth to cemented pan Seepage Slope	1.00 1.00 1.00
401: Chiminet-----	60	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 1.00	Very limited Depth to soft bedrock Slope Seepage	1.00 1.00 0.18
Rock outcrop-----	25	Not rated		Not rated	
407: Totavi-----	85	Very limited Filtering capacity Seepage, bottom layer	1.00 1.00	Very limited Seepage Slope	1.00 0.68
704: Chrishall-----	80	Very limited Flooding Seepage, bottom layer Slope	1.00 1.00 0.01	Very limited Flooding Seepage Slope	1.00 1.00 1.00
710: Calaveras-----	50	Very limited Slope Large stones content Slow water movement	1.00 0.99 0.46	Very limited Slope Large stones content Seepage	1.00 1.00 0.53

Table 12.--Sewage disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
710: Palon-----	30	Very limited Slope Seepage, bottom layer Large stones content	1.00 1.00 0.01	Very limited Slope Seepage	1.00 1.00
711: Laventana-----	80	Very limited Slope Large stones content Slow water movement	1.00 0.99 0.46	Very limited Slope Seepage Large stones content	1.00 0.53 0.07
719: Alanos-----	80	Very limited Slow water movement Slope Seepage, bottom layer Large stones content	1.00 1.00 1.00 0.65	Very limited Slope Seepage Large stones content	1.00 1.00 0.98
802: Redondo-----	85	Very limited Slope Slow water movement	1.00 0.46	Very limited Slope Seepage	1.00 0.53
803: Rusbach-----	85	Very limited Filtering capacity Slope Seepage, bottom layer Large stones content	1.00 1.00 1.00 0.01	Very limited Slope Seepage	1.00 1.00
DAM: Dam-----	100	Not rated		Not rated	
W: Water-----	100	Not rated		Not rated	

Table 13.--Landfills

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9: Pinavetes-----	50	Somewhat limited Too sandy	0.50	Not limited		Very limited Seepage Too sandy	1.00 0.50
Florita-----	40	Not limited		Not limited		Somewhat limited Seepage	0.52
10: Sparank-----	55	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Not limited	
San Mateo-----	30	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Not limited	
11: Fruitland-----	85	Not limited		Not limited		Somewhat limited Seepage	0.52
12: Pinavetes-----	85	Somewhat limited Too sandy	0.50	Not limited		Very limited Seepage Too sandy	1.00 0.50

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
18: Abiquiu-----	50	Very limited Flooding Depth to saturated zone Seepage, bottom layer Too sandy Large stones content	1.00 1.00 1.00 1.00 0.49	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Too sandy Seepage Large stones content Gravel content Depth to saturated zone	1.00 1.00 0.49 0.19 0.09
Peralta-----	40	Very limited Flooding Depth to saturated zone Too sandy	1.00 1.00 0.50	Very limited Flooding Depth to saturated zone	1.00 1.00	Somewhat limited Too sandy Depth to saturated zone	0.50 0.47
20: Menefee-----	35	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00
Vessilla-----	30	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.52
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
18: 21: Werlog-----	85	Very limited Depth to saturated zone Seepage, bottom layer Too clayey Flooding	1.00 1.00 0.50 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Somewhat limited Too clayey Depth to saturated zone	0.50 0.24
22: Jocity-----	50	Not limited		Not limited		Not limited	
Gilco-----	35	Not limited		Not limited		Not limited	
23: Gilco-----	85	Not limited		Not limited		Not limited	
24: Jocity-----	85	Not limited		Not limited		Not limited	
30: San Mateo-----	85	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Not limited	
31: Gobernador-----	50	Very limited Too clayey Excess sodium	1.00 1.00	Not limited		Very limited Too clayey Sodium content	1.00 1.00

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31: Orlie-----	40	Not limited		Not limited		Not limited	
34: Alcalde-----	85	Somewhat limited Flooding	0.40	Somewhat limited Flooding	0.40	Not limited	
39: Fruitland-----	85	Not limited		Not limited		Somewhat limited Seepage	0.52
40: Pinitos-----	40	Not limited		Not limited		Somewhat limited Seepage	0.52
Menefee-----	20	Very limited Depth to bedrock Slope	1.00 0.84	Very limited Depth to bedrock Slope	1.00 0.84	Very limited Depth to bedrock Slope	1.00 0.84
Vessilla-----	20	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.84	Very limited Depth to bedrock Slope	1.00 0.84	Very limited Depth to bedrock Slope Seepage	1.00 0.84 0.52

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
42: Walrees-----	45	Very limited Flooding Depth to saturated zone Seepage, bottom layer Too sandy	1.00 1.00 1.00 1.00	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Too sandy Seepage	1.00 1.00
Abiquiu-----	40	Very limited Flooding Depth to saturated zone Seepage, bottom layer Too sandy Large stones content	1.00 1.00 1.00 1.00 0.11	Very limited Flooding Depth to saturated zone Seepage	1.00 1.00 1.00	Very limited Too sandy Seepage Large stones content Depth to saturated zone Gravel content	1.00 1.00 0.11 0.09 0.01
50: Stout-----	45	Very limited Depth to bedrock Seepage, bottom layer Organic matter content Slope	1.00 1.00 1.00 0.16	Very limited Depth to bedrock Slope	1.00 0.16	Very limited Depth to bedrock Organic matter content Seepage Slope	1.00 1.00 0.52 0.16

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50: Kunz-----	40	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16	Somewhat limited Slope	0.16
54: Capillo-----	90	Very limited Too clayey	1.00	Not limited		Very limited Too clayey	1.00
60: Sparham-----	85	Very limited Depth to saturated zone Seepage, bottom layer Too clayey Flooding	1.00 1.00 1.00 0.40	Very limited Depth to saturated zone Flooding	1.00 0.40	Very limited Too clayey	1.00
61: Colomex-----	85	Very limited Seepage, bottom layer Too sandy Large stones content	1.00 0.50 0.03	Very limited Seepage	1.00	Very limited Seepage Too sandy Gravel content Large stones content	1.00 0.50 0.20 0.03

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64: Dula-----	90	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too sandy	1.00
		Seepage, bottom layer	1.00	Seepage	1.00	Seepage	1.00
		Too sandy	1.00				
65: Doslomas-----	85	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Very limited Too sandy	1.00
		Too sandy	1.00			Seepage	1.00
		Large stones content	0.06			Large stones content	0.06
66: Encicado-----	90	Very limited Flooding	1.00	Very limited Flooding	1.00	Somewhat limited Too clayey	0.50
		Too clayey	0.50				
69: Lindrith-----	50	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.52
		Too sandy	0.50			Too sandy	0.50

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
69: Royosa-----	35	Very limited Seepage, bottom layer Too sandy	1.00 0.50	Very limited Seepage	1.00	Very limited Seepage Too sandy	1.00 0.50
70: Sparham-----	80	Very limited Excess sodium Too clayey Flooding	1.00 0.50 0.40	Somewhat limited Flooding	0.40	Very limited Sodium content Too clayey	1.00 0.50
80: Orlie-----	45	Not limited		Not limited		Not limited	
Nalivag-----	35	Not limited		Not limited		Not limited	
102: Menefee-----	40	Very limited Depth to bedrock Slope Too clayey	1.00 1.00 0.50	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope Too clayey	1.00 1.00 0.50
Nalivag-----	40	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63	Somewhat limited Slope	0.63
103: Orlie-----	80	Not limited		Not limited		Not limited	

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
106: Amal-----	85	Not limited		Not limited		Not limited	
107: Berryman-----	55	Not limited		Not limited		Very limited Carbonate content	1.00
Ruson-----	30	Very limited Too clayey	1.00	Not limited		Very limited Too clayey	1.00
108: Peney-----	50	Very limited Depth to bedrock Slope	1.00 0.63	Very limited Depth to bedrock Slope	1.00 0.63	Very limited Depth to bedrock Slope Gravel content	1.00 0.63 0.10
Ransect-----	35	Very limited Depth to bedrock	1.00	Not limited		Very limited Depth to bedrock Carbonate content	1.00 1.00
109: Calendar-----	85	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Slope	1.00	Very limited Depth to bedrock Slope	1.00 1.00

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
110: Vessilla-----	45	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.52
Menefee-----	25	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00
Orlie-----	20	Not limited		Not limited		Not limited	
113: Teromote-----	55	Not limited		Not limited		Not limited	
Ruson-----	25	Very limited Too clayey	1.00	Not limited		Very limited Too clayey	1.00
115: Menefee-----	80	Very limited Depth to bedrock Slope Too clayey	1.00 1.00 0.50	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope Too clayey	1.00 1.00 0.50

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
117: Chamita-----	85	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Seepage, bottom layer	1.00				
118: Hesperus-----	35	Not limited		Not limited		Not limited	
Pastorius-----	25	Somewhat limited Large stones content	0.47	Not limited		Somewhat limited Large stones content	0.47
Chamita-----	20	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Depth to saturated zone	0.99
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
119: Roques-----	45	Very limited Too clayey	1.00	Not limited		Very limited Too clayey	1.00

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
119: Nusmag-----	35	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Too clayey Hard to compact	1.00 1.00
125: Hogg-----	55	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Mara-----	30	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
127: Rombo-----	45	Very limited Depth to bedrock Too clayey Slope	1.00 1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Too clayey Depth to bedrock Slope	1.00 1.00 1.00
Wiggler-----	40	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope Gravel content	1.00 1.00 0.01
129: Nusmag-----	45	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Too clayey Hard to compact	1.00 1.00

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
129: Tottles-----	35	Very limited Depth to saturated zone Too clayey	1.00 1.00	Very limited Depth to saturated zone	1.00	Very limited Too clayey Hard to compact Depth to saturated zone	1.00 1.00 0.99
130: Topetaul-----	45	Very limited Too clayey Slope Large stones content	1.00 0.96 0.54	Somewhat limited Slope	0.96	Very limited Too clayey Slope Large stones content Gravel content	1.00 0.96 0.54 0.16
Hogg-----	35	Very limited Too clayey Slope	1.00 0.96	Somewhat limited Slope	0.96	Very limited Too clayey Slope	1.00 0.96
132: Stout-----	40	Very limited Depth to bedrock Seepage, bottom layer Slope	1.00 1.00 0.84	Very limited Depth to bedrock Slope	1.00 0.84	Very limited Depth to bedrock Slope Seepage	1.00 0.84 0.52

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
132: Carjo-----	20	Very limited Depth to bedrock Slope Too clayey	1.00 0.84 0.50	Very limited Depth to bedrock Slope	1.00 0.84	Very limited Depth to bedrock Slope Too clayey	1.00 0.84 0.50
Rock outcrop-----	20	Not rated		Not rated		Not rated	
133: Carrick-----	90	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
136: Elpedro-----	80	Not limited		Not limited		Not limited	
137: Yata-----	50	Very limited Slope Too clayey Large stones content	1.00 1.00 0.07	Very limited Slope	1.00	Very limited Slope Too clayey Hard to compact Large stones content	1.00 1.00 1.00 0.07
Eody-----	40	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
140: Espiritu-----	45	Very limited Slope Large stones content	1.00 0.29	Very limited Slope	1.00	Very limited Slope Large stones content Gravel content	1.00 0.29 0.01
Wauquie-----	35	Very limited Slope Large stones content	1.00 0.51	Very limited Slope	1.00	Very limited Slope Seepage Large stones content	1.00 0.52 0.51
141: Capillo-----	35	Somewhat limited Too clayey	0.50	Not limited		Somewhat limited Too clayey	0.50
Carjo-----	30	Very limited Depth to bedrock Too clayey Slope	1.00 1.00 0.04	Very limited Depth to bedrock Slope	1.00 0.04	Very limited Too clayey Depth to bedrock Slope	1.00 1.00 0.04
Vamer-----	30	Very limited Depth to bedrock Slope Too clayey	1.00 1.00 0.50	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope Too clayey	1.00 1.00 0.50

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
142: Pinavetes-----	85	Somewhat limited Too sandy Slope	0.50 0.01	Somewhat limited Slope	0.01	Very limited Seepage Too sandy Slope	1.00 0.50 0.01
145: Dermala-----	50	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope	1.00
Rosced-----	35	Very limited Slope Too sandy	1.00 1.00	Very limited Slope	1.00	Very limited Slope Too sandy Seepage Gravel content	1.00 1.00 1.00 0.93
146: Parida-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Seepage Gravel content	1.00 0.52 0.16
Palacid-----	40	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.01

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
147: Dermala-----	45	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Gravel content	1.00 0.21
Chimayo-----	40	Very limited Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Gravel content Seepage	1.00 1.00 1.00 0.52
148: Chita-----	85	Not limited		Not limited		Not limited	
149: Yarts-----	80	Not limited		Not limited		Somewhat limited Seepage	0.52
151: Razito-----	45	Somewhat limited Too sandy	0.50	Not limited		Very limited Seepage Too sandy	1.00 0.50
Fruitland-----	40	Not limited		Not limited		Somewhat limited Seepage	0.52

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
170: Sedillo-----	85	Somewhat limited Large stones content	0.86	Not limited		Somewhat limited Large stones content Seepage	0.86 0.52
173: Oelop-----	85	Not limited		Not limited		Not limited	
180: Oelop-----	90	Not limited		Not limited		Not limited	
182: Oelop-----	90	Not limited		Not limited		Not limited	
190: Sedillo-----	90	Somewhat limited Large stones content	0.94	Not limited		Somewhat limited Large stones content Seepage	0.94 0.52
200: Katlon-----	85	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
201: Lobat-----	45	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey Gravel content	1.00 0.50 0.01
Abreu-----	40	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Depth to bedrock	1.00 0.01	Very limited Slope Gravel content Too clayey Depth to bedrock	1.00 0.63 0.50 0.01
203: Nabor-----	55	Very limited Slope Too clayey	1.00 0.50	Very limited Slope	1.00	Very limited Slope Too clayey	1.00 0.50
Elbuck-----	30	Somewhat limited Slope Too clayey	0.84 0.50	Somewhat limited Slope	0.84	Somewhat limited Slope Gravel content Too clayey	0.84 0.56 0.50
206: Angostura-----	60	Very limited Slope Too clayey Large stones content	1.00 0.50 0.29	Very limited Slope	1.00	Very limited Slope Too clayey Large stones content	1.00 0.50 0.29

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
206: Gromes-----	25	Very limited Slope Too clayey Large stones content	1.00 0.50 0.23	Very limited Slope	1.00	Very limited Slope Too clayey Large stones content Gravel content	1.00 0.50 0.23 0.01
207: Gromes-----	65	Very limited Slope Large stones content	1.00 0.19	Very limited Slope	1.00	Very limited Slope Large stones content	1.00 0.19
Rock outcrop-----	20	Not rated		Not rated		Not rated	
208: Ess-----	45	Somewhat limited Large stones content Slope	0.08 0.04	Somewhat limited Slope	0.04	Somewhat limited Gravel content Large stones content Slope	0.22 0.08 0.04
Croftshaw-----	35	Somewhat limited Slope Too clayey	0.63 0.50	Somewhat limited Slope	0.63	Somewhat limited Slope Too clayey	0.63 0.50

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
209: Crubas-----	40	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00				
Bywell-----	30	Very limited Flooding	1.00	Very limited Flooding	1.00	Very limited Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Seepage	0.52
		Seepage, bottom layer	1.00	Seepage	1.00		
Croftshaw-----	20	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Somewhat limited Seepage	0.52
		Slope	0.16	Slope	0.16	Slope	0.16
210: Rock outcrop-----	60	Not rated		Not rated		Not rated	

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
210: Bracos-----	30	Very limited Slope Depth to bedrock Seepage, bottom layer Large stones	1.00 1.00 1.00 1.00	Very limited Slope Seepage Depth to bedrock	1.00 1.00 1.00	Very limited Slope Depth to bedrock Large stones Seepage	1.00 1.00 1.00 0.52
211: Angostura-----	90	Very limited Slope Large stones content	1.00 0.32	Very limited Slope	1.00	Very limited Slope Large stones content Gravel content	1.00 0.32 0.01
214: Quimera-----	60	Very limited Slope Depth to bedrock Too clayey	1.00 1.00 0.50	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Too clayey	1.00 1.00 0.50
Vamer-----	25	Very limited Depth to bedrock Too clayey Slope	1.00 1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Too clayey Slope	1.00 1.00 1.00

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
215: Saragote-----	45	Very limited Depth to saturated zone Too clayey Large stones content	1.00 0.50 0.21	Very limited Depth to saturated zone	1.00	Somewhat limited Too clayey Depth to saturated zone Large stones content	0.50 0.24 0.21
Ess-----	35	Somewhat limited Large stones content	0.09	Not limited		Somewhat limited Gravel content Large stones content	0.23 0.09
216: Angostura-----	85	Very limited Slope Large stones content	1.00 0.61	Very limited Slope	1.00	Very limited Slope Large stones content Gravel content	1.00 0.61 0.03
220: Rock outcrop-----	40	Not rated		Not rated		Not rated	
Vessilla-----	30	Very limited Slope Depth to bedrock Seepage, bottom layer	1.00 1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.52

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
220: Menefee-----	20	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Slope Depth to bedrock	1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00
228: Suposo-----	50	Very limited Too clayey	1.00	Not limited		Very limited Too clayey	1.00
Brycan-----	35	Very limited Flooding Too clayey	1.00 0.50	Very limited Flooding	1.00	Somewhat limited Too clayey	0.50
230: Badland-----	90	Not rated		Very limited Depth to bedrock Slope	1.00 1.00	Not rated	
240: Riverwash, gravelly-	100	Very limited Flooding Depth to saturated zone Too sandy	1.00 1.00 1.00	Very limited Flooding Depth to saturated zone	1.00 1.00	Very limited Depth to saturated zone Too sandy Seepage Gravel content	1.00 1.00 1.00 0.01

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
241: Florita-----	55	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Slope Seepage	1.00 0.52
Rock outcrop-----	25	Not rated		Not rated		Not rated	
242: Tinaja-----	50	Very limited Slope Large stones content	1.00 0.18	Very limited Slope	1.00	Very limited Slope Large stones content	1.00 0.18
Rock outcrop-----	30	Not rated		Not rated		Not rated	
243: Penistaja-----	85	Not limited		Not limited		Somewhat limited Seepage	0.52
244: Scholle-----	60	Not limited		Not limited		Somewhat limited Gravel content	0.06
Silver-----	30	Not limited		Not limited		Not limited	
245: Maia-----	65	Not limited		Not limited		Somewhat limited Seepage Gravel content	0.52 0.11

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
245: Manzano-----	20	Very limited Flooding Seepage, bottom layer	1.00 1.00	Very limited Flooding	1.00	Not limited	
246: Pena-----	85	Somewhat limited Large stones content Slope	0.83 0.04	Somewhat limited Slope	0.04	Somewhat limited Large stones content Seepage Slope	0.83 0.52 0.04
247: Wenota-----	85	Very limited Flooding	1.00	Very limited Flooding	1.00	Not limited	
248: Hagerman-----	45	Very limited Depth to bedrock	1.00	Not limited		Very limited Depth to bedrock	1.00
Silver-----	40	Not limited		Not limited		Not limited	
249: Losmarios-----	85	Very limited Slope	1.00	Very limited Slope	1.00	Very limited Hard to compact Slope	1.00 1.00

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
302: Puye-----	85	Very limited Seepage, bottom layer Depth to thin cemented pan Slope	1.00 0.50 0.04	Very limited Depth to cemented pan Seepage Slope	1.00 1.00 0.04	Very limited Depth to cemented pan Seepage Gravel content Slope	1.00 0.52 0.31 0.04
401: Chiminet-----	60	Very limited Depth to bedrock Seepage, bottom layer Slope Organic matter content	1.00 1.00 1.00 1.00	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Depth to bedrock Slope Seepage Organic matter content Gravel content	1.00 1.00 1.00 1.00 0.04
Rock outcrop-----	25	Not rated		Not rated		Not rated	
407: Totavi-----	85	Very limited Seepage, bottom layer	1.00	Very limited Seepage	1.00	Very limited Seepage Gravel content	1.00 0.20

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
704: Chrishall-----	80	Very limited Flooding Seepage, bottom layer Slope	1.00 1.00 0.01	Very limited Flooding Seepage Slope	1.00 1.00 0.01	Somewhat limited Gravel content Seepage Slope	0.77 0.52 0.01
710: Calaveras-----	50	Very limited Slope Large stones	1.00 1.00	Very limited Slope	1.00	Very limited Slope Large stones	1.00 1.00
Palon-----	30	Very limited Slope Seepage, bottom layer Too sandy Large stones content	1.00 1.00 0.50 0.42	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Too sandy Large stones content Gravel content	1.00 0.52 0.50 0.42 0.10
711: Laventana-----	80	Very limited Slope Large stones	1.00 1.00	Very limited Slope	1.00	Very limited Slope Large stones	1.00 1.00

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
719: Alanos-----	80	Very limited Slope Seepage, bottom layer Large stones content	1.00 1.00 0.95	Very limited Slope Seepage	1.00 1.00	Very limited Slope Large stones content Seepage	1.00 0.95 0.52
802: Redondo-----	85	Very limited Slope Large stones content	1.00 0.02	Very limited Slope	1.00	Very limited Slope Gravel content Large stones content	1.00 0.05 0.02
803: Rusbach-----	85	Very limited Slope Seepage, bottom layer Too sandy Large stones content	1.00 1.00 0.50 0.15	Very limited Slope Seepage	1.00 1.00	Very limited Slope Seepage Too sandy Large stones content Gravel content	1.00 1.00 0.50 0.15 0.01
DAM: Dam-----	100	Not rated		Not rated		Not rated	

Table 13.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
W: Water-----	100	Not rated		Not rated		Not rated	

Table 14.--Source of gravel and sand

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
9: Pinavetes-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.10 0.12
Florita-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.04 0.06
10: Sparank-----	55	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
San Mateo-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
11: Fruitland-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.02 0.04
12: Pinavetes-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.10 0.12
18: Abiquiu-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Peralta-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.07 0.19
20: Menefee-----	35	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Vessilla-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.04
Rock outcrop-----	15	Not rated		Not rated	
21: Werlog-----	85	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.20

Table 14.--Source of gravel and sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
22: Jocity-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
Gilco-----	35	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.09
23: Gilco-----	85	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
24: Jocity-----	85	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
30: San Mateo-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.03
31: Gobernador-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Orlie-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
34: Alcalde-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
39: Fruitland-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.02 0.04
40: Pinitos-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Menefee-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Vessilla-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
42: Walrees-----	45	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.05

Table 14.--Source of gravel and sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
42: Abiquiu-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
50: Stout-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03
Kunz-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.03
54: Capillo-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
60: Sparham-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03
61: Colomex-----	85	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.11
64: Dula-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.06
65: Doslomas-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
66: Encicado-----	90	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
69: Lindrith-----	50	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.06
Royosa-----	35	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.05 0.08
70: Sparham-----	80	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

Table 14.--Source of gravel and sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
80: Orlie-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Nalivag-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
102: Menefee-----	40	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Nalivag-----	40	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
103: Orlie-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
106: Amal-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
107: Berryman-----	55	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Ruson-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
108: Peney-----	50	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Ransect-----	35	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
109: Calendar-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
110: Vessilla-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.04 0.04
Menefee-----	25	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

Table 14.--Source of gravel and sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
110: Orlie-----	20	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
113: Teromote-----	55	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Ruson-----	25	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
115: Menefee-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
117: Chamita-----	85	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.04
118: Hesperus-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Pastorius-----	25	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Chamita-----	20	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
119: Roques-----	45	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Nusmag-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
125: Hogg-----	55	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Mara-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
127: Rombo-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

Table 14.--Source of gravel and sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
127: Wiggler-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
129: Nusmag-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Tottles-----	35	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
130: Topetaul-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Hogg-----	35	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
132: Stout-----	40	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Carjo-----	20	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
133: Carrick-----	90	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
136: Elpedro-----	80	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
137: Yata-----	50	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Eody-----	40	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
140: Espiritu-----	45	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.03

Table 14.--Source of gravel and sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
140: Wauquie-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
141: Capillo-----	35	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Carjo-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Vamer-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
142: Pinavetes-----	85	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.10 0.12
145: Dermala-----	50	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Rosced-----	35	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.04 0.57
146: Parida-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.03 0.04
Palacid-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
147: Dermala-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Chimayo-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
148: Chita-----	85	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
149: Yarts-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.03

Table 14.--Source of gravel and sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
151: Razito-----	45	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.10 0.10
Fruitland-----	40	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.07
170: Sedillo-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
173: Oelop-----	85	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.04
180: Oelop-----	90	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
182: Oelop-----	90	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
190: Sedillo-----	90	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
200: Katlon-----	85	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
201: Lobat-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Abreu-----	40	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
203: Nabor-----	55	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Elbuck-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

Table 14.--Source of gravel and sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
206: Angostura-----	60	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Gromes-----	25	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
207: Gromes-----	65	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Rock outcrop-----	20	Not rated		Not rated	
208: Ess-----	45	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
Croftshaw-----	35	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
209: Crubas-----	40	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Bywell-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.06
Croftshaw-----	20	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.04
210: Rock outcrop-----	60	Not rated		Not rated	
Bracos-----	30	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
211: Angostura-----	90	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
214: Quimera-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Vamer-----	25	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00

Table 14.--Source of gravel and sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
215: Saragote-----	45	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
Ess-----	35	Poor Thickest layer Bottom layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
216: Angostura-----	85	Poor Thickest layer Bottom layer	0.00 0.00	Fair Bottom layer Thickest layer	0.00 0.04
220: Rock outcrop-----	40	Not rated		Not rated	
Vessilla-----	30	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.04
Menefee-----	20	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
228: Suposo-----	50	Poor Bottom layer Thickest layer	0.00 0.00	Poor Thickest layer Bottom layer	0.00 0.00
Brycan-----	35	Poor Thickest layer Bottom layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00
230: Badland-----	90	Not rated		Not rated	
240: Riverwash, gravelly-	100	Fair Bottom layer Thickest layer	0.00 0.03	Fair Bottom layer Thickest layer	0.50 0.70
241: Florita-----	55	Poor Bottom layer Thickest layer	0.00 0.00	Fair Bottom layer Thickest layer	0.04 0.04
Rock outcrop-----	25	Not rated		Not rated	
242: Tinaja-----	50	Poor Thickest layer Bottom layer	0.00 0.00	Fair Thickest layer Bottom layer	0.00 0.04
Rock outcrop-----	30	Not rated		Not rated	
243: Penistaja-----	85	Poor Bottom layer Thickest layer	0.00 0.00	Poor Bottom layer Thickest layer	0.00 0.00

Table 14.--Source of gravel and sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
244: Scholle-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Silver-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
245: Maia-----	65	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Manzano-----	20	Poor Thickest layer Bottom layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.10
246: Pena-----	85	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
247: Wenota-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
248: Hagerman-----	45	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Silver-----	40	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
249: Losmarios-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
302: Puye-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.08
401: Chiminet-----	60	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Thickest layer Bottom layer	 0.00 0.03
Rock outcrop-----	25	Not rated		Not rated	
407: Totavi-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.01 0.02

Table 14.--Source of gravel and sand

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
704: Chrishall-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
710: Calaveras-----	50	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
Palon-----	30	Poor Bottom layer Thickest layer	 0.00 0.00	Fair Bottom layer Thickest layer	 0.00 0.08
711: Laventana-----	80	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
719: Alanos-----	80	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
802: Redondo-----	85	Poor Bottom layer Thickest layer	 0.00 0.00	Poor Bottom layer Thickest layer	 0.00 0.00
803: Rusbach-----	85	Poor Thickest layer Bottom layer	 0.00 0.00	Poor Thickest layer Bottom layer	 0.00 0.00
DAM: Dam-----	100	Not rated		Not rated	
W: Water-----	100	Not rated		Not rated	

Table 15.--Source of reclamation material, roadfill, and topsoil

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9: Pinavetes-----	50	Poor Wind erosion Too sandy Droughty Organic matter content low	0.00 0.08 0.10 0.32	Good		Fair Too sandy	0.08
Florita-----	40	Poor Too alkaline Organic matter content low	0.00 0.12	Good		Good	
10: Sparank-----	55	Poor Sodium content Too clayey Organic matter content low Water erosion	0.00 0.00 0.12 0.90	Poor Low strength Shrink-swell	0.00 0.12	Poor Sodium content Too clayey Salinity	0.00 0.00 0.50

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
10: San Mateo-----	30	Poor Sodium content Organic matter content low Water erosion	0.00 0.32 0.90	Fair Shrink-swell	0.87	Poor Sodium content Salinity Rock fragments	0.00 0.50 0.92
11: Fruitland-----	85	Fair Organic matter content low	0.12	Good		Fair Rock fragments	0.95
12: Pinavetes-----	85	Poor Wind erosion Too sandy Droughty Organic matter content low	0.00 0.08 0.10 0.32	Good		Fair Too sandy	0.08
18: Abiquiu-----	50	Poor Droughty Organic matter content low Cobble content Water erosion	0.00 0.12 0.51 0.90	Poor Cobble content	0.00	Poor Hard to reclaim (rock fragments) Rock fragments	0.00 0.00

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
18: Peralta-----	40	Poor Wind erosion Organic matter content low Sodium content Too sandy	0.00 0.12 0.90 0.92	Fair Wetness depth	0.89	Poor Salinity Wetness depth Sodium content Too sandy	0.00 0.89 0.90 0.92
20: Menefee-----	35	Poor Droughty Depth to bedrock Organic matter content low Too clayey Water erosion	0.00 0.00 0.50 0.88 0.99	Poor Depth to bedrock Slope	0.00 0.50	Poor Depth to bedrock Slope Too clayey Rock fragments	0.00 0.00 0.57 0.88
Vessilla-----	30	Poor Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.12	Poor Depth to bedrock Slope	0.00 0.50	Poor Depth to bedrock Slope Rock fragments	0.00 0.00 0.95
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
21: Werlog-----	85	Fair Organic matter content low	0.12	Poor Low strength Shrink-swell Wetness depth	0.00 0.91 0.98	Fair Wetness depth	0.98
22: Jocity-----	50	Fair Organic matter content low	0.05	Good		Good	
Gilco-----	35	Poor Wind erosion Organic matter content low Water erosion	0.00 0.12 0.68	Good		Fair Rock fragments	0.59
23: Gilco-----	85	Fair Organic matter content low Water erosion	0.12 0.90	Good		Fair Rock fragments	0.59
24: Jocity-----	85	Fair Organic matter content low	0.05	Poor Low strength	0.00	Good	

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
30: San Mateo-----	85	Poor Sodium content Organic matter content low Water erosion	0.00 0.32 0.99	Poor Low strength Shrink-swell	0.00 0.87	Poor Sodium content Salinity Rock fragments	0.00 0.50 0.92
31: Gobernador-----	50	Poor Too clayey Sodium content Too alkaline Organic matter content low Salinity Droughty Water erosion	0.00 0.00 0.00 0.12 0.50 0.74 0.99	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey Sodium content Salinity	0.00 0.00 0.00
Orlie-----	40	Fair Organic matter content low Too clayey Water erosion	0.92 0.95 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Rock fragments Too clayey	0.41 0.70

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
34: Alcalde-----	85	Poor Too clayey Too alkaline Organic matter content low Sodium content Salinity Droughty	0.00 0.00 0.12 0.40 0.50 0.71	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey Salinity Sodium content	0.00 0.00 0.40
39: Fruitland-----	85	Fair Organic matter content low	0.12	Good		Fair Hard to reclaim (rock fragments)	0.88
40: Pinitos-----	40	Fair Organic matter content low	0.12	Good		Good	
Menefee-----	20	Poor Droughty Depth to bedrock Organic matter content low Too clayey	0.00 0.00 0.50 0.88	Poor Depth to bedrock	0.00	Poor Depth to bedrock Slope Too clayey Rock fragments	0.00 0.16 0.57 0.88

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
40: Vessilla-----	20	Poor Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.12	Poor Depth to bedrock	0.00	Poor Depth to bedrock Slope Rock fragments	0.00 0.16 0.95
42: Walrees-----	45	Fair Organic matter content low Water erosion Droughty	0.32 0.68 0.99	Good		Fair Hard to reclaim (rock fragments) Salinity	0.32 0.88
Abiquiu-----	40	Poor Droughty Organic matter content low Cobble content	0.00 0.12 0.89	Fair Cobble content	0.55	Poor Hard to reclaim (rock fragments) Rock fragments	0.00 0.00
50: Stout-----	45	Poor Droughty Depth to bedrock Organic matter content low Too acid	0.00 0.00 0.12 0.74	Poor Depth to bedrock	0.00	Poor Depth to bedrock Slope	0.00 0.84

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50: Kunz-----	40	Fair Organic matter content low	0.88	Fair Shrink-swell	0.87	Fair Slope	0.84
54: Capillo-----	90	Poor Too clayey Organic matter content low Water erosion	0.00 0.12 0.90	Poor Low strength Shrink-swell	0.00 0.15	Poor Too clayey	0.00
60: Sparham-----	85	Poor Too clayey Organic matter content low Sodium content	0.00 0.12 0.40	Poor Low strength Shrink-swell	0.00 0.25	Poor Too clayey Sodium content Salinity	0.00 0.40 0.50
61: Colomex-----	85	Fair Organic matter content low Droughty Cobble content	0.12 0.61 0.97	Fair Cobble content	0.19	Poor Rock fragments Hard to reclaim (rock fragments)	0.00 0.00

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
64: Dula-----	90	Fair Organic matter content low Droughty Water erosion	0.88 0.94 0.99	Fair Wetness depth	0.06	Poor Hard to reclaim (rock fragments) Wetness depth Rock fragments	0.00 0.06 0.90
65: Doslomas-----	85	Fair Organic matter content low Too clayey Cobble content Droughty Water erosion	0.12 0.50 0.94 0.98 0.99	Fair Cobble content	0.99	Poor Hard to reclaim (rock fragments) Too clayey Rock fragments	0.00 0.29 0.41
66: Encicado-----	90	Fair Too clayey Organic matter content low Water erosion	0.02 0.40 0.99	Fair Shrink-swell	0.87	Poor Hard to reclaim (rock fragments) Too clayey Rock fragments	0.00 0.02 0.99
69: Lindrith-----	50	Fair Organic matter content low Water erosion	0.12 0.99	Good		Fair Rock fragments	0.92

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
69: Royosa-----	35	Poor Wind erosion Organic matter content low Too sandy Droughty	0.00 0.12 0.30 0.35	Good		Fair Too sandy	0.30
70: Sparham-----	80	Poor Sodium content Too clayey Organic matter content low Salinity Droughty	0.00 0.02 0.12 0.50 0.94	Poor Low strength Shrink-swell	0.00 0.12	Poor Sodium content Salinity Too clayey Rock fragments	0.00 0.00 0.01 0.41
80: Orlie-----	45	Fair Organic matter content low Too clayey Water erosion	0.92 0.95 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Rock fragments Too clayey	0.41 0.70
Nalivag-----	35	Fair Organic matter content low Water erosion	0.88 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Rock fragments	0.95

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
102: Menefee-----	40	Poor Droughty Depth to bedrock Organic matter content low Too clayey	0.00 0.00 0.50 0.88	Poor Depth to bedrock Low strength Shrink-swell Slope	0.00 0.00 0.87 0.92	Poor Depth to bedrock Slope Too clayey Rock fragments	0.00 0.00 0.57 0.88
Nalivag-----	40	Fair Organic matter content low Water erosion	0.88 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Slope Rock fragments	0.37 0.95
103: Orlie-----	80	Fair Organic matter content low Too clayey Water erosion	0.12 0.95 0.99	Fair Shrink-swell	0.87	Fair Rock fragments Too clayey	0.41 0.55
106: Amal-----	85	Fair Organic matter content low Water erosion Too clayey	0.12 0.90 0.95	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.55

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
107: Berryman-----	55	Poor Carbonate content Organic matter content low Water erosion	0.00 0.12 0.90	Poor Low strength Shrink-swell	0.00 0.87	Poor Carbonate content	0.00
Ruson-----	30	Poor Too clayey Organic matter content low Water erosion	0.00 0.12 0.90	Poor Low strength Shrink-swell	0.00 0.23	Poor Too clayey Rock fragments	0.00 0.41
108: Peney-----	50	Poor Droughty Depth to bedrock Organic matter content low Water erosion Carbonate content	0.00 0.00 0.50 0.90 0.92	Poor Depth to bedrock	0.00	Poor Depth to bedrock Rock fragments Slope Carbonate content	0.00 0.18 0.37 0.98
Ransect-----	35	Poor Carbonate content Organic matter content low Too clayey Depth to bedrock Water erosion	0.00 0.32 0.95 0.99 0.99	Poor Low strength Depth to bedrock Shrink-swell	0.00 0.00 0.87	Poor Carbonate content Too clayey Depth to bedrock	0.00 0.60 0.99

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
109: Calendar-----	85	Poor Too clayey Organic matter content low Droughty Depth to bedrock	0.00 0.12 0.75 0.90	Poor Low strength Depth to bedrock Shrink-swell Slope	0.00 0.00 0.12 0.50	Poor Too clayey Slope Rock fragments Depth to bedrock	0.00 0.00 0.41 0.90
110: Vessilla-----	45	Poor Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.12	Poor Depth to bedrock Slope	0.00 0.98	Poor Depth to bedrock Slope Rock fragments	0.00 0.00 0.95
Menefee-----	25	Poor Droughty Depth to bedrock Organic matter content low Too clayey	0.00 0.00 0.50 0.88	Poor Depth to bedrock Slope	0.00 0.98	Poor Depth to bedrock Slope Too clayey Rock fragments	0.00 0.00 0.57 0.88
Orlie-----	20	Fair Organic matter content low Water erosion Too clayey	0.12 0.90 0.95	Poor Low strength Shrink-swell	0.00 0.87	Fair Rock fragments Too clayey	0.41 0.55

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
113: Teromote-----	55	Fair Organic matter content low Water erosion	0.12 0.99	Poor Low strength Shrink-swell	0.00 0.87	Good	
Ruson-----	25	Poor Too clayey Organic matter content low	0.00 0.12	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey Rock fragments	0.00 0.41
115: Menefee-----	80	Poor Droughty Depth to bedrock Organic matter content low Too clayey	0.00 0.00 0.50 0.88	Poor Depth to bedrock Low strength Slope Shrink-swell	0.00 0.00 0.68 0.87	Poor Depth to bedrock Slope Too clayey Rock fragments	0.00 0.00 0.57 0.88
117: Chamita-----	85	Fair Water erosion	0.99	Poor Low strength Wetness depth Shrink-swell	0.00 0.14 0.91	Fair Wetness depth	0.14
118: Hesperus-----	35	Good		Poor Low strength	0.00	Fair Rock fragments	0.99

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
118: Pastorius-----	25	Fair Organic matter content low Cobble content Water erosion Too acid	0.32 0.67 0.90 0.99	Fair Cobble content	0.08	Poor Hard to reclaim (rock fragments) Rock fragments	0.00 0.00
Chamita-----	20	Fair Water erosion	0.99	Poor Low strength Wetness depth Shrink-swell	0.00 0.14 0.87	Fair Wetness depth	0.14
119: Roques-----	45	Poor Too clayey Organic matter content low	0.00 0.12	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey	0.00
Nusmag-----	35	Poor Too clayey Organic matter content low	0.00 0.88	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey	0.00

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
102: 125: Hogg-----	55	Fair Too clayey Organic matter content low Water erosion	0.02 0.32 0.99	Poor Low strength Shrink-swell	0.00 0.12	Fair Too clayey Rock fragments	0.01 0.41
Mara-----	30	Fair Organic matter content low Too clayey Water erosion	0.12 0.98 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Too clayey	0.57
127: Rombo-----	45	Poor Too clayey Organic matter content low Depth to bedrock Droughty	0.00 0.12 0.97 0.97	Poor Low strength Depth to bedrock Shrink-swell	0.00 0.00 0.12	Poor Too clayey Slope Rock fragments Depth to bedrock	0.00 0.00 0.24 0.97
Wiggler-----	40	Poor Droughty Depth to bedrock Organic matter content low Water erosion	0.00 0.00 0.18 0.99	Poor Depth to bedrock	0.00	Poor Depth to bedrock Slope Rock fragments	0.00 0.00 0.88

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
129: Nusmag-----	45	Poor Too clayey Organic matter content low	0.00 0.88	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey	0.00
Tottles-----	35	Poor Too clayey Organic matter content low	0.00 0.92	Poor Low strength Wetness depth Shrink-swell	0.00 0.14 0.26	Poor Too clayey Wetness depth	0.00 0.14
130: Topetaul-----	45	Poor Too clayey Organic matter content low Droughty Cobble content Too acid	0.00 0.12 0.38 0.46 0.99	Poor Cobble content Shrink-swell	0.00 0.20	Poor Hard to reclaim (rock fragments) Rock fragments Too clayey Slope	0.00 0.00 0.00 0.04
Hogg-----	35	Fair Too clayey Organic matter content low Water erosion	0.02 0.12 0.99	Poor Low strength Shrink-swell	0.00 0.12	Fair Too clayey Slope Rock fragments	0.01 0.04 0.41

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
132: Stout-----	40	Poor Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.12	Poor Depth to bedrock	0.00	Poor Depth to bedrock Slope Rock fragments	0.00 0.16 0.69
Carjo-----	20	Fair Too clayey Organic matter content low Depth to bedrock	0.02 0.50 0.99	Poor Low strength Depth to bedrock Shrink-swell	0.00 0.00 0.12	Fair Too clayey Slope Rock fragments Depth to bedrock	0.01 0.16 0.91 0.99
Rock outcrop-----	20	Not rated		Not rated		Not rated	
133: Carrick-----	90	Fair Too clayey Organic matter content low Water erosion	0.02 0.12 0.90	Poor Low strength Shrink-swell	0.00 0.12	Fair Too clayey	0.01
136: Elpedro-----	80	Fair Organic matter content low Water erosion	0.12 0.90	Poor Low strength	0.00	Good	

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
137: Yata-----	50	Poor Too clayey Organic matter content low Cobble content Water erosion	0.00 0.92 0.93 0.99	Poor Slope Low strength Shrink-swell Cobble content	0.00 0.00 0.26 0.46	Poor Rock fragments Slope Too clayey Hard to reclaim (rock fragments)	0.00 0.00 0.00 0.00
Eody-----	40	Fair Too clayey Organic matter content low Water erosion	0.02 0.40 0.99	Poor Slope Low strength Shrink-swell	0.00 0.00 0.12	Poor Slope Too clayey	0.00 0.01
140: Espiritu-----	45	Fair Organic matter content low Cobble content Droughty	0.12 0.83 0.86	Poor Slope Cobble content	0.00 0.04	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
Wauquie-----	35	Fair Organic matter content low Droughty Cobble content	0.12 0.34 0.80	Poor Slope Cobble content	0.00 0.07	Poor Rock fragments Hard to reclaim (rock fragments) Slope	0.00 0.00 0.00

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
141: Capillo-----	35	Fair Too clayey Organic matter content low Water erosion	0.02 0.12 0.99	Poor Low strength Shrink-swell	0.00 0.15	Fair Too clayey	0.01
Carjo-----	30	Poor Too clayey Organic matter content low Depth to bedrock Droughty	0.00 0.50 0.65 0.94	Poor Low strength Depth to bedrock Shrink-swell	0.00 0.00 0.12	Poor Too clayey Depth to bedrock Slope	0.00 0.65 0.96
Vamer-----	30	Poor Depth to bedrock Droughty Too clayey Organic matter content low Water erosion	0.00 0.00 0.02 0.92 0.99	Poor Depth to bedrock Low strength Slope Shrink-swell	0.00 0.00 0.82 0.87	Poor Slope Depth to bedrock Too clayey Rock fragments	0.00 0.00 0.01 0.93
142: Pinavetes-----	85	Poor Wind erosion Too sandy Droughty Organic matter content low	0.00 0.08 0.10 0.32	Good		Fair Too sandy	0.08

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
145: Dermala-----	50	Fair Organic matter content low	0.12	Poor Low strength Slope Shrink-swell	0.00 0.00 0.99	Poor Slope Rock fragments	0.00 0.00
Rosced-----	35	Fair Droughty Organic matter content low	0.01 0.12	Poor Slope	0.00	Poor Hard to reclaim (rock fragments) Slope Rock fragments	0.00 0.00 0.00
146: Parida-----	45	Fair Organic matter content low Droughty	0.12 0.99	Poor Slope	0.00	Poor Rock fragments Slope Hard to reclaim (rock fragments)	0.00 0.00 0.74
Palacid-----	40	Fair Organic matter content low Too clayey Water erosion	0.12 0.98 0.99	Poor Slope Low strength Shrink-swell	0.00 0.00 0.87	Poor Slope Hard to reclaim (rock fragments) Too clayey Rock fragments	0.00 0.54 0.57 0.68

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
147: Dermala-----	45	Fair Organic matter content low	0.12	Poor Slope	0.00	Poor Rock fragments Slope Hard to reclaim (rock fragments)	0.00 0.00 0.74
Chimayo-----	40	Poor Droughty Depth to bedrock Organic matter content low	0.00 0.00 0.12	Poor Slope Depth to bedrock	0.00 0.00	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.00
148: Chita-----	85	Fair Organic matter content low Carbonate content Too clayey Water erosion	0.12 0.32 0.95 0.99	Poor Low strength Shrink-swell	0.00 0.99	Fair Too clayey Hard to reclaim (rock fragments) Carbonate content	0.55 0.74 0.81
149: Yarts-----	80	Fair Organic matter content low	0.12	Good		Good	

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
151: Razito-----	45	Poor Wind erosion Too sandy Organic matter content low Droughty	0.00 0.00 0.12 0.35	Good		Poor Too sandy	0.00
Fruitland-----	40	Fair Organic matter content low	0.12	Good		Good	
170: Sedillo-----	85	Fair Organic matter content low Cobble content Droughty Carbonate content No stoniness limitation	0.12 0.46 0.77 0.80 0.99	Fair Cobble content	0.01	Poor Rock fragments Hard to reclaim (rock fragments)	0.00 0.00
173: Oelop-----	85	Fair Organic matter content low Water erosion	0.12 0.99	Poor Low strength Shrink-swell	0.00 0.98	Good	

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
180: Oelop-----	90	Fair Organic matter content low Water erosion	0.12 0.99	Poor Low strength Shrink-swell	0.00 0.87	Good	
182: Oelop-----	90	Fair Organic matter content low Water erosion	0.12 0.99	Good		Good	
190: Sedillo-----	90	Fair Organic matter content low Cobble content Droughty Carbonate content Stone content Water erosion	0.12 0.43 0.45 0.80 0.90 0.99	Fair Cobble content	0.01	Poor Rock fragments Hard to reclaim (rock fragments)	0.00 0.00
200: Katlon-----	85	Fair Too acid	0.50	Poor Slope Low strength Shrink-swell	0.00 0.00 0.99	Poor Slope	0.00

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
201: Lobat-----	45	Fair Organic matter content low Too acid Too clayey	0.68 0.74 0.99	Poor Slope Low strength Shrink-swell	0.00 0.22 0.87	Poor Rock fragments Slope Too clayey Hard to reclaim (rock fragments)	0.00 0.00 0.68 0.92
Abreu-----	40	Fair Organic matter content low Too acid Too clayey	0.12 0.74 0.98	Poor Slope Shrink-swell Cobble content Depth to bedrock	0.00 0.92 0.96 0.99	Poor Slope Rock fragments Hard to reclaim (rock fragments) Too clayey	0.00 0.00 0.00 0.57
203: Nabor-----	55	Poor Too clayey Organic matter content low Water erosion	0.00 0.92 0.99	Poor Low strength Shrink-swell Slope	0.00 0.21 0.50	Poor Too clayey Slope	0.00 0.00
Elbuck-----	30	Fair Organic matter content low Too acid	0.12 0.84	Good		Poor Rock fragments Slope Hard to reclaim (rock fragments)	0.00 0.16 0.39

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
206: Angostura-----	60	Fair Stone content Organic matter content low Droughty	0.40 0.82 0.98	Poor Slope Stone content Cobble content	0.00 0.52 0.53	Poor Slope Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.05
Gromes-----	25	Fair Organic matter content low Cobble content Too acid	0.82 0.90 0.99	Fair Cobble content Slope Shrink-swell	0.13 0.50 0.87	Poor Slope Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.00
207: Gromes-----	65	Fair Organic matter content low Cobble content Too acid	0.82 0.91 0.99	Poor Slope Cobble content Shrink-swell	0.00 0.15 0.89	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
208: Ess-----	45	Fair Cobble content Droughty	0.98 0.98	Fair Cobble content Shrink-swell	0.43 0.99	Poor Rock fragments Hard to reclaim (rock fragments) Slope	0.00 0.00 0.96
Croftshaw-----	35	Fair Too acid Organic matter content low Too clayey Water erosion	0.84 0.98 0.98 0.99	Poor Low strength Shrink-swell	0.00 0.87	Fair Slope Rock fragments Too clayey	0.37 0.41 0.74
209: Crubas-----	40	Poor Too clayey Organic matter content low Too acid	0.00 0.12 0.74	Poor Low strength Wetness depth Shrink-swell	0.00 0.00 0.25	Poor Too clayey Wetness depth Hard to reclaim (rock fragments)	0.00 0.00 0.54
Bywell-----	30	Fair Droughty Organic matter content low Water erosion Too acid	0.08 0.12 0.90 0.95	Fair Wetness depth Cobble content	0.04 0.68	Poor Rock fragments Wetness depth	0.00 0.04

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
209: Croftshaw-----	20	Fair Organic matter content low Too acid Too clayey Water erosion	0.12 0.84 0.98 0.99	Good		Fair Rock fragments Too clayey Slope	0.41 0.74 0.84
210: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Bracos-----	30	Poor Stone content Droughty Organic matter content low Depth to bedrock Too acid	0.00 0.00 0.40 0.71 0.74	Poor Slope Stone content Depth to bedrock Cobble content	0.00 0.00 0.00 0.93	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.71
211: Angostura-----	90	Fair Organic matter content low Stone content Droughty	0.12 0.42 0.65	Poor Slope Cobble content Stone content	0.00 0.56 0.58	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
214: Quimera-----	60	Poor Depth to bedrock Droughty Too clayey Organic matter content low	0.00 0.00 0.12 0.12	Poor Depth to bedrock Slope Low strength Shrink-swell	0.00 0.00 0.00 0.70	Poor Slope Depth to bedrock Too clayey Rock fragments	0.00 0.00 0.07 0.88
Vamer-----	25	Poor Depth to bedrock Droughty Too clayey Organic matter content low Water erosion	0.00 0.00 0.00 0.92 0.99	Poor Depth to bedrock Low strength Slope Shrink-swell	0.00 0.00 0.08 0.87	Poor Depth to bedrock Too clayey Slope Rock fragments	0.00 0.00 0.00 0.74
215: Saragote-----	45	Fair Too clayey Organic matter content low Too acid Cobble content	0.02 0.50 0.74 0.79	Poor Low strength Cobble content Shrink-swell Wetness depth	0.00 0.12 0.12 0.98	Poor Hard to reclaim (rock fragments) Rock fragments Too clayey Wetness depth	0.00 0.00 0.01 0.98
Ess-----	35	Fair Cobble content Droughty	0.97 0.98	Fair Cobble content Shrink-swell	0.38 0.99	Poor Rock fragments Hard to reclaim (rock fragments)	0.00 0.00

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
216: Angostura-----	85	Fair Stone content Droughty Organic matter content low Cobble content	0.07 0.12 0.32 0.99	Poor Slope Stone content Cobble content	0.00 0.06 0.38	Poor Slope Rock fragments Hard to reclaim (rock fragments)	0.00 0.00 0.00
220: Rock outcrop-----	40	Not rated		Not rated		Not rated	
Vessilla-----	30	Poor Depth to bedrock Droughty Organic matter content low	0.00 0.00 0.12	Poor Slope Depth to bedrock	0.00 0.00	Poor Slope Depth to bedrock Rock fragments	0.00 0.00 0.95
Menefee-----	20	Poor Droughty Depth to bedrock Organic matter content low Too clayey	0.00 0.00 0.50 0.88	Poor Depth to bedrock Slope	0.00 0.00	Poor Depth to bedrock Slope Too clayey Rock fragments	0.00 0.00 0.57 0.88
228: Suposo-----	50	Poor Too clayey Organic matter content low	0.00 0.50	Poor Low strength Shrink-swell	0.00 0.12	Poor Too clayey	0.00

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
228: Brycan-----	35	Fair Water erosion	0.99	Poor Low strength	0.00	Good	
230: Badland-----	90	Not rated		Not rated		Not rated	
240: Riverwash, gravelly-	100	Poor Droughty Too sandy Organic matter content low	0.00 0.00 0.12	Poor Wetness depth	0.00	Poor Too sandy Wetness depth Rock fragments	0.00 0.00 0.32
241: Florita-----	55	Poor Too alkaline Organic matter content low	0.00 0.12	Poor Slope	0.00	Poor Slope	0.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
242: Tinaja-----	50	Fair Organic matter content low Carbonate content Stone content Droughty	0.12 0.68 0.89 0.99	Poor Slope Cobble content Stone content	0.00 0.00 0.46	Poor Slope Rock fragments Carbonate content	0.00 0.00 0.78

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
242: Rock outcrop-----	30	Not rated		Not rated		Not rated	
243: Penistaja-----	85	Fair Organic matter content low	0.12	Good		Good	
244: Scholle-----	60	Fair Organic matter content low Carbonate content Water erosion	0.12 0.80 0.99	Fair Shrink-swell	0.94	Poor Rock fragments Hard to reclaim (rock fragments)	0.00 0.32
Silver-----	30	Fair Too clayey Organic matter content low Water erosion	0.02 0.12 0.99	Poor Low strength Shrink-swell	0.00 0.51	Fair Too clayey Hard to reclaim (rock fragments)	0.01 0.08
245: Maia-----	65	Poor Too alkaline Organic matter content low Carbonate content Water erosion	0.00 0.12 0.80 0.99	Good		Poor Rock fragments Hard to reclaim (rock fragments)	0.00 0.54

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
245: Manzano-----	20	Fair Water erosion	0.99	Fair Low strength	0.22	Fair Hard to reclaim (rock fragments)	0.61
246: Pena-----	85	Fair Droughty	0.11	Fair Cobble content	0.02	Poor Hard to reclaim (rock fragments)	0.00
		Organic matter content low	0.12	Stone content	0.99	Rock fragments	0.00
		Cobble content	0.62			Slope	0.96
		Carbonate content	0.80				
		Stone content	0.93				
247: Wenota-----	85	Poor Too clayey	0.00	Poor Low strength	0.00	Poor Too clayey	0.00
		Organic matter content low	0.12	Shrink-swell	0.87		
		Water erosion	0.99				
248: Hagerman-----	45	Fair Depth to bedrock	0.10	Poor Depth to bedrock	0.00	Fair Depth to bedrock	0.10
		Organic matter content low	0.12	Shrink-swell	0.87		
		Droughty	0.16				

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
248: Silver-----	40	Fair Too clayey Organic matter content low	0.02 0.12	Poor Low strength Shrink-swell	0.00 0.12	Fair Too clayey	0.01
249: Losmarios-----	85	Poor Too clayey Organic matter content low	0.00 0.12	Poor Low strength Slope Shrink-swell	0.00 0.08 0.12	Poor Too clayey Slope Rock fragments	0.00 0.00 0.92
302: Puye-----	85	Poor Droughty Depth to cemented pan Organic matter content low	0.00 0.00 0.32	Poor Depth to cemented pan	0.00	Poor Rock fragments Depth to cemented pan Slope	0.00 0.00 0.96
401: Chiminet-----	60	Poor Droughty Depth to bedrock Organic matter content low Too acid	0.00 0.00 0.02 0.74	Poor Depth to bedrock Slope	0.00 0.08	Poor Slope Rock fragments Depth to bedrock	0.00 0.00 0.00

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
401: Rock outcrop-----	25	Not rated		Not rated		Not rated	
407: Totavi-----	85	Fair Organic matter content low Too acid	0.12 0.74	Good		Fair Hard to reclaim (rock fragments) Rock fragments	0.01 0.32
704: Chrishall-----	80	Good		Good		Poor Rock fragments Hard to reclaim (rock fragments)	0.00 0.20
710: Calaveras-----	50	Poor Stone content Organic matter content low Droughty Too acid Cobble content	0.00 0.12 0.48 0.74 0.81	Poor Slope Stone content Cobble content	0.00 0.00 0.13	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
710: Palon-----	30	Fair Droughty Too sandy Cobble content Too acid Organic matter content low	 0.04 0.30 0.73 0.74 0.75	Poor Slope Cobble content	 0.00 0.64	Poor Slope Hard to reclaim (rock fragments) Rock fragments Too sandy	 0.00 0.00 0.00 0.30
711: Laventana-----	80	Poor Stone content Organic matter content low Cobble content Droughty	 0.00 0.12 0.70 0.93	Poor Stone content Slope Cobble content	 0.00 0.00 0.11	Poor Slope Hard to reclaim (rock fragments) Rock fragments	 0.00 0.00 0.00
719: Alanos-----	80	Poor Too clayey Organic matter content low Cobble content Too acid Droughty Stone content	 0.00 0.12 0.39 0.74 0.76 0.90	Poor Cobble content Slope Shrink-swell	 0.00 0.00 0.98	Poor Slope Hard to reclaim (rock fragments) Rock fragments Too clayey	 0.00 0.00 0.00 0.00

Table 15.--Source of reclamation material, roadfill, and topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
802: Redondo-----	85	Fair Organic matter content low Too acid Cobble content Droughty	0.12 0.74 0.98 0.99	Fair Cobble content	0.67	Poor Hard to reclaim (rock fragments) Rock fragments Slope	0.00 0.00 0.00
803: Rusbach-----	85	Fair Organic matter content low Droughty Too acid Cobble content	0.12 0.59 0.74 0.85	Poor Slope Cobble content	0.00 0.37	Poor Slope Hard to reclaim (rock fragments) Rock fragments	0.00 0.00 0.00
DAM: Dam-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Table 16.--Ponds and embankments

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
9: Pinavetes-----	50	Very limited Seepage Slope	1.00 0.68	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00
Florita-----	40	Very limited Seepage Slope	1.00 0.08	Somewhat limited Piping Seepage	0.22 0.06	Very limited Depth to water	1.00
10: Sparank-----	55	Not limited		Very limited Hard to pack	1.00	Very limited Depth to water	1.00
San Mateo-----	30	Somewhat limited Seepage	0.04	Very limited Piping	1.00	Very limited Depth to water	1.00
11: Fruitland-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
12: Pinavetes-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
18: Abiquiu-----	50	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Large stones content Seepage	0.43 0.28 0.12	Very limited Cutbanks cave Large stones content Depth to saturated zone	1.00 0.28 0.25
Peralta-----	40	Somewhat limited Seepage	0.72	Somewhat limited Depth to saturated zone Seepage Piping	0.86 0.19 0.10	Very limited Cutbanks cave Slow refill Salinity and saturated zone Depth to saturated zone	1.00 0.28 0.22 0.06
20: Menefee-----	35	Very limited Slope Depth to bedrock	1.00 0.84	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Vessilla-----	30	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.53	Very limited Thin layer Seepage	1.00 0.04	Very limited Depth to water	1.00
Rock outcrop-----	15	Not rated		Not rated		Not rated	

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
21: Werlog-----	85	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage Piping	0.68 0.22 0.03	Very limited Cutbanks cave Depth to saturated zone	1.00 0.14
22: Jocity-----	50	Somewhat limited Seepage	0.72	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
Gilco-----	35	Somewhat limited Seepage	0.72	Somewhat limited Seepage	0.09	Very limited Depth to water	1.00
23: Gilco-----	85	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.98	Very limited Depth to water	1.00
24: Jocity-----	85	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.17	Very limited Depth to water	1.00
30: San Mateo-----	85	Somewhat limited Seepage	0.04	Very limited Piping Seepage	1.00 0.03	Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
31: Gobernador-----	50	Not limited		Very limited Hard to pack Salinity	1.00 0.50	Very limited Depth to water	1.00
Orlie-----	40	Somewhat limited Slope Seepage	0.32 0.04	Not limited		Very limited Depth to water	1.00
34: Alcalde-----	85	Not limited		Very limited Hard to pack Salinity	1.00 0.50	Very limited Depth to water	1.00
39: Fruitland-----	85	Very limited Seepage Slope	1.00 0.08	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
40: Pinitos-----	40	Very limited Seepage Slope	1.00 0.68	Not limited		Very limited Depth to water	1.00
Menefee-----	20	Very limited Slope Depth to bedrock	1.00 0.84	Very limited Thin layer	1.00	Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
40: Vessilla-----	20	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.53	Very limited Thin layer Seepage	1.00 0.01	Very limited Depth to water	1.00
42: Walrees-----	45	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.09 0.05	Very limited Cutbanks cave Depth to saturated zone Salinity and saturated zone	1.00 0.54 0.01
Abiquiu-----	40	Very limited Seepage	1.00	Somewhat limited Depth to saturated zone Seepage	0.43 0.12	Very limited Cutbanks cave Depth to saturated zone	1.00 0.25
50: Stout-----	45	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.53	Very limited Thin layer Organic matter content Seepage	1.00 1.00 0.03	Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
50: Kunz-----	40	Very limited Slope Seepage	1.00 0.04	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
54: Capillo-----	90	Somewhat limited Slope	0.08	Somewhat limited Hard to pack	0.18	Very limited Depth to water	1.00
60: Sparham-----	85	Very limited Seepage	1.00	Very limited Hard to pack Seepage	1.00 0.03	Somewhat limited Depth to saturated zone Cutbanks cave Salinity and saturated zone	0.96 0.10 0.06
61: Colomex-----	85	Very limited Seepage	1.00	Somewhat limited Seepage Large stones content	0.11 0.05	Very limited Depth to water	1.00
64: Dula-----	90	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.50	Very limited Cutbanks cave	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
65: Doslomas-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.59	Very limited Depth to water	1.00
66: Encicado-----	90	Somewhat limited Seepage	0.04	Not limited		Very limited Depth to water	1.00
69: Lindrith-----	50	Very limited Seepage Slope	1.00 0.32	Somewhat limited Seepage	0.06	Very limited Depth to water	1.00
Royosa-----	35	Very limited Seepage Slope	1.00 0.32	Somewhat limited Seepage	0.08	Very limited Depth to water	1.00
70: Sparham-----	80	Not limited		Very limited Hard to pack Salinity	1.00 0.50	Very limited Depth to water	1.00
80: Orlie-----	45	Somewhat limited Slope Seepage	0.32 0.04	Not limited		Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
80: Nalivag-----	35	Somewhat limited Slope Seepage	0.32 0.04	Somewhat limited Piping	0.10	Very limited Depth to water	1.00
102: Menefee-----	40	Very limited Slope Depth to bedrock	1.00 0.69	Very limited Thin layer	1.00	Very limited Depth to water	1.00
Nalivag-----	40	Very limited Slope Seepage	1.00 0.04	Somewhat limited Piping	0.10	Very limited Depth to water	1.00
103: Orlie-----	80	Somewhat limited Slope Seepage	0.32 0.04	Not limited		Very limited Depth to water	1.00
106: Amal-----	85	Somewhat limited Slope Seepage	0.32 0.04	Not limited		Very limited Depth to water	1.00
107: Berryman-----	55	Somewhat limited Slope	0.68	Somewhat limited Piping	0.01	Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
107: Ruson-----	30	Not limited		Somewhat limited Hard to pack	0.59	Very limited Depth to water	1.00
108: Peney-----	50	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Thin layer Piping	1.00 0.18	Very limited Depth to water	1.00
Ransect-----	35	Somewhat limited Depth to bedrock Slope Seepage	0.56 0.08 0.04	Somewhat limited Thin layer	0.56	Very limited Depth to water	1.00
109: Calendar-----	85	Very limited Slope Depth to bedrock	1.00 0.04	Somewhat limited Thin layer Hard to pack	0.70 0.51	Very limited Depth to water	1.00
110: Vessilla-----	45	Very limited Depth to bedrock Slope Seepage	1.00 1.00 0.53	Very limited Thin layer Seepage	1.00 0.04	Very limited Depth to water	1.00
Menefee-----	25	Very limited Slope Depth to bedrock	1.00 0.84	Very limited Thin layer	1.00	Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
110: Orlie-----	20	Somewhat limited Slope Seepage	0.32 0.04	Not limited		Very limited Depth to water	1.00
113: Teromote-----	55	Somewhat limited Slope Seepage	0.32 0.04	Somewhat limited Piping	0.10	Very limited Depth to water	1.00
Ruson-----	25	Not limited		Somewhat limited Hard to pack	0.72	Very limited Depth to water	1.00
115: Menefee-----	80	Very limited Slope Depth to bedrock	1.00 0.80	Very limited Thin layer	1.00	Very limited Depth to water	1.00
117: Chamita-----	85	Very limited Seepage	1.00	Very limited Depth to saturated zone Piping Seepage	1.00 0.48 0.04	Very limited Cutbanks cave	1.00
118: Hesperus-----	35	Somewhat limited Seepage	0.54	Somewhat limited Piping	0.13	Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
118: Pastorius-----	25	Somewhat limited Seepage	0.72	Somewhat limited Piping Large stones content	0.35 0.18	Very limited Depth to water	1.00
Chamita-----	20	Somewhat limited Seepage	0.54	Very limited Depth to saturated zone Piping	1.00 0.07	Somewhat limited Slow refill Cutbanks cave	0.46 0.10
119: Roques-----	45	Somewhat limited Slope	0.32	Somewhat limited Hard to pack	0.86	Very limited Depth to water	1.00
Nusmag-----	35	Not limited		Somewhat limited Hard to pack	0.79	Very limited Slow refill Depth to saturated zone Cutbanks cave	1.00 0.99 0.10
125: Hogg-----	55	Somewhat limited Slope	0.68	Somewhat limited Hard to pack	0.27	Very limited Depth to water	1.00
Mara-----	30	Somewhat limited Slope Seepage	0.92 0.04	Not limited		Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
127: Rombo-----	45	Very limited Slope Depth to bedrock	1.00 0.02	Somewhat limited Hard to pack Thin layer	0.76 0.61	Very limited Depth to water	1.00
Wiggler-----	40	Very limited Slope Depth to bedrock	1.00 0.84	Very limited Thin layer	1.00	Very limited Depth to water	1.00
129: Nusmag-----	45	Not limited		Somewhat limited Hard to pack	0.80	Very limited Slow refill Depth to saturated zone Cutbanks cave	1.00 0.99 0.10
Tottles-----	35	Not limited		Very limited Depth to saturated zone Hard to pack	1.00 0.67	Very limited Slow refill Cutbanks cave	1.00 0.10
130: Topetaul-----	45	Very limited Slope	1.00	Somewhat limited Large stones content Seepage	0.31 0.15	Very limited Depth to water	1.00
Hogg-----	35	Very limited Slope	1.00	Somewhat limited Hard to pack	0.25	Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
132: Stout-----	40	Very limited Depth to bedrock Slope	1.00 1.00	Very limited Thin layer Piping	1.00 0.82	Very limited Depth to water	1.00
Carjo-----	20	Very limited Slope Depth to bedrock Seepage	1.00 0.56 0.53	Somewhat limited Thin layer Hard to pack	0.56 0.17	Very limited Depth to water	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
133: Carrick-----	90	Not limited		Somewhat limited Hard to pack	0.23	Very limited Depth to water	1.00
136: Elpedro-----	80	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.02	Very limited Depth to water	1.00
137: Yata-----	50	Very limited Slope Seepage	1.00 0.04	Somewhat limited Hard to pack Large stones content	0.40 0.01	Very limited Depth to water	1.00
Eody-----	40	Very limited Slope	1.00	Somewhat limited Hard to pack	0.26	Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
140: Espiritu-----	45	Very limited Seepage	1.00	Somewhat limited Large stones content	0.28	Very limited Depth to water	1.00
		Slope	1.00	Seepage	0.03		
Wauquie-----	35	Very limited Seepage	1.00	Somewhat limited Large stones content	0.37	Very limited Depth to water	1.00
		Slope	1.00				
141: Capillo-----	35	Somewhat limited Slope	0.92	Not limited		Very limited Depth to water	1.00
Carjo-----	30	Very limited Slope	1.00	Somewhat limited Thin layer	0.83	Very limited Depth to water	1.00
		Depth to bedrock	0.83	Hard to pack	0.40		
		Seepage	0.53				
Vamer-----	30	Very limited Slope	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
		Depth to bedrock	1.00				
		Seepage	0.53				
142: Pinavetes-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.12	Very limited Depth to water	1.00
		Slope	1.00				

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
145: Dermala-----	50	Very limited Slope Seepage	1.00 0.72	Not limited		Very limited Depth to water	1.00
Rosced-----	35	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.57	Very limited Depth to water	1.00
146: Parida-----	45	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
Palacid-----	40	Very limited Slope Seepage	1.00 0.04	Somewhat limited Piping	0.01	Very limited Depth to water	1.00
147: Dermala-----	45	Very limited Slope Seepage	1.00 0.72	Not limited		Very limited Depth to water	1.00
Chimayo-----	40	Very limited Slope Depth to bedrock Seepage	1.00 1.00 0.53	Very limited Thin layer Seepage	1.00 0.03	Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
148: Chita-----	85	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.08	Very limited Depth to water	1.00
149: Yarts-----	80	Very limited Seepage	1.00	Somewhat limited Seepage	0.03	Very limited Depth to water	1.00
151: Razito-----	45	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
Fruitland-----	40	Very limited Seepage	1.00	Somewhat limited Seepage	0.07	Very limited Depth to water	1.00
170: Sedillo-----	85	Very limited Seepage	1.00	Somewhat limited Large stones content Seepage	0.33 0.04	Very limited Depth to water	1.00
173: Oelop-----	85	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.32 0.04	Very limited Depth to water	1.00
180: Oelop-----	90	Somewhat limited Seepage	0.04	Somewhat limited Piping	0.01	Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
182: Oelop-----	90	Somewhat limited Slope Seepage	0.92 0.72	Somewhat limited Piping	0.17	Very limited Depth to water	1.00
190: Sedillo-----	90	Very limited Seepage	1.00	Somewhat limited Large stones content Seepage	0.59 0.04	Very limited Depth to water	1.00
200: Katlon-----	85	Very limited Slope Seepage	1.00 0.72	Not limited		Very limited Depth to water	1.00
201: Lobat-----	45	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00
Abreu-----	40	Very limited Slope Seepage Depth to bedrock	1.00 0.04 0.01	Somewhat limited Thin layer	0.01	Very limited Depth to water	1.00
203: Nabor-----	55	Very limited Slope	1.00	Somewhat limited Hard to pack	0.37	Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
203: Elbuck-----	30	Very limited Slope Seepage	1.00 0.72	Not limited		Very limited Depth to water	1.00
206: Angostura-----	60	Very limited Slope Seepage	1.00 0.72	Somewhat limited Large stones content	0.30	Very limited Depth to water	1.00
Gromes-----	25	Very limited Slope Seepage	1.00 0.04	Somewhat limited Large stones content	0.19	Very limited Depth to water	1.00
207: Gromes-----	65	Very limited Slope Seepage	1.00 0.04	Somewhat limited Large stones content	0.14	Very limited Depth to water	1.00
Rock outcrop-----	20	Not rated		Not rated		Not rated	
208: Ess-----	45	Very limited Slope Seepage	1.00 0.72	Somewhat limited Large stones content Seepage	0.02 0.01	Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
208: Croftshaw-----	35	Very limited Slope Seepage	1.00 0.04	Not limited		Very limited Depth to water	1.00
209: Crubas-----	40	Not limited		Very limited Depth to saturated zone Hard to pack	1.00 0.45	Very limited Cutbanks cave Slow refill	1.00 0.96
Bywell-----	30	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.06	Somewhat limited Cutbanks cave	0.10
Croftshaw-----	20	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage	0.04	Very limited Depth to water	1.00
210: Rock outcrop-----	60	Not rated		Not rated		Not rated	
Bracos-----	30	Very limited Seepage Slope Depth to bedrock	1.00 1.00 0.81	Very limited Large stones content Thin layer Seepage	1.00 0.81 0.04	Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
211: Angostura-----	90	Very limited Slope	1.00	Somewhat limited Large stones content	0.26	Very limited Depth to water	1.00
		Seepage	0.72				
214: Quimera-----	60	Very limited Slope	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
		Depth to bedrock	1.00				
		Seepage	0.53				
Vamer-----	25	Very limited Slope	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
		Depth to bedrock	1.00	Hard to pack	0.38		
		Seepage	0.53				
215: Saragote-----	45	Somewhat limited Slope	0.08	Somewhat limited Depth to saturated zone	0.68	Very limited Slow refill	1.00
				Hard to pack	0.16	Depth to saturated zone	0.14
				Large stones content	0.08	Cutbanks cave	0.10
						Large stones content	0.08

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
215: Ess-----	35	Somewhat limited Seepage	0.72	Somewhat limited Large stones content	0.04	Very limited Depth to water	1.00
		Slope	0.32	Seepage	0.01		
216: Angostura-----	85	Very limited Slope	1.00	Somewhat limited Large stones content	0.65	Very limited Depth to water	1.00
		Seepage	0.72	Seepage	0.04		
220: Rock outcrop-----	40	Not rated		Not rated		Not rated	
Vessilla-----	30	Very limited Slope	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
		Depth to bedrock	1.00	Seepage	0.04		
		Seepage	0.53				
Menefee-----	20	Very limited Slope	1.00	Very limited Thin layer	1.00	Very limited Depth to water	1.00
		Depth to bedrock	0.84				
228: Suposo-----	50	Somewhat limited Slope	0.08	Somewhat limited Hard to pack	0.78	Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
228: Brycan-----	35	Somewhat limited Seepage	0.72	Somewhat limited Piping	0.04	Very limited Depth to water	1.00
230: Badland-----	90	Very limited Depth to bedrock Slope	1.00 1.00	Not rated		Not rated	
240: Riverwash, gravelly-	100	Very limited Seepage	1.00	Very limited Depth to saturated zone Seepage	1.00 0.70	Very limited Cutbanks cave	1.00
241: Florita-----	55	Very limited Seepage Slope	1.00 1.00	Somewhat limited Piping Seepage	0.22 0.04	Very limited Depth to water	1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	
242: Tinaja-----	50	Very limited Seepage Slope	1.00 1.00	Somewhat limited Large stones content Seepage	0.93 0.04	Very limited Depth to water	1.00
Rock outcrop-----	30	Not rated		Not rated		Not rated	

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
243: Penistaja-----	85	Very limited Seepage Slope	1.00 0.32	Not limited		Very limited Depth to water	1.00
244: Scholle-----	60	Somewhat limited Seepage	0.72	Not limited		Very limited Depth to water	1.00
Silver-----	30	Somewhat limited Seepage	0.72	Not limited		Very limited Depth to water	1.00
245: Maia-----	65	Very limited Seepage	1.00	Not limited		Very limited Depth to water	1.00
Manzano-----	20	Very limited Seepage	1.00	Somewhat limited Piping Seepage	0.75 0.10	Very limited Depth to water	1.00
246: Pena-----	85	Very limited Seepage Slope	1.00 1.00	Somewhat limited Large stones content Seepage	0.58 0.04	Very limited Depth to water	1.00
247: Wenota-----	85	Somewhat limited Slope	0.08	Not limited		Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
248: Hagerman-----	45	Somewhat limited Depth to bedrock Seepage Slope	0.98 0.72 0.32	Somewhat limited Thin layer	0.98	Very limited Depth to water	1.00
Silver-----	40	Somewhat limited Slope	0.32	Somewhat limited Hard to pack	0.24	Very limited Depth to water	1.00
249: Losmarios-----	85	Very limited Slope	1.00	Somewhat limited Hard to pack	0.92	Very limited Depth to water	1.00
302: Puye-----	85	Very limited Seepage Depth to cemented pan Slope	1.00 1.00 1.00	Very limited Thin layer Seepage	1.00 0.08	Very limited Depth to water	1.00
401: Chiminet-----	60	Very limited Slope Depth to bedrock Seepage	1.00 0.84 0.43	Very limited Thin layer Organic matter content Seepage	1.00 1.00 0.03	Very limited Depth to water	1.00
Rock outcrop-----	25	Not rated		Not rated		Not rated	

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
407: Totavi-----	85	Very limited Seepage Slope	1.00 0.32	Somewhat limited Seepage	0.02	Very limited Depth to water	1.00
704: Chrishall-----	80	Very limited Seepage Slope	1.00 1.00	Not limited		Very limited Depth to water	1.00
710: Calaveras-----	50	Very limited Slope Seepage	1.00 0.72	Very limited Large stones content Seepage	0.99 0.03	Very limited Depth to water	1.00
Palon-----	30	Very limited Seepage Slope	1.00 1.00	Somewhat limited Seepage Large stones content	0.08 0.01	Very limited Depth to water	1.00
711: Laventana-----	80	Very limited Slope Seepage	1.00 0.72	Very limited Large stones content	0.99	Very limited Depth to water	1.00

Table 16.--Ponds and embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
719: Alanos-----	80	Very limited Seepage	1.00	Somewhat limited Large stones content	0.65	Very limited Depth to water	1.00
		Slope	1.00	Seepage	0.03		
802: Redondo-----	85	Very limited Slope	1.00	Not limited		Very limited Depth to water	1.00
		Seepage	0.72				
803: Rusbach-----	85	Very limited Seepage	1.00	Somewhat limited Seepage	0.10	Very limited Depth to water	1.00
		Slope	1.00	Large stones content	0.01		
DAM: Dam-----	100	Not rated		Not rated		Not rated	
W: Water-----	100	Not rated		Not rated		Not rated	

Table 17.--Engineering properties

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
9:												
Pinavetes-----	0-3	Loamy sand	SM	A-2	0	0	100	100	77-84	19-26	0-24	NP-6
	3-60	Loamy sand	SM	A-2	0	0	100	100	77-85	17-25	18-28	3-10
Florita-----	0-2	Sandy loam	SC-SM	A-4	0	0	100	100	74-79	36-41	26-33	9-13
	2-6	Sandy loam	SC-SM	A-4	0	0	100	100	74-79	36-41	20-27	6-10
	6-24	Coarse sandy loam	SM	A-2	0	0	100	100	60-65	34-39	16-23	2-6
	24-60	Sandy loam	SC-SM	A-4	0	0	100	100	74-79	36-41	20-27	6-10
10:												
Sparank-----	0-2	Silt loam	CL	A-6	0	0	100	100	91-98	78-85	31-41	13-19
	2-60	Clay	CH, CL	A-7	0	0	95-100	84-100	73-100	58-84	45-61	25-37
San Mateo-----	0-2	Silt loam	CL	A-4	0	0	100	100	89-99	73-83	26-37	9-17
	2-60	Stratified sandy loam to clay loam	CL	A-6	0	0	90-100	75-100	67-100	59-95	29-47	12-25
11:												
Fruitland-----	0-2	Sandy loam	SC-SM	A-4	0	0	100	100	74-79	36-41	17-24	2-6
	2-60	Fine sandy loam, sandy loam	SC-SM	A-2, A-4	0	0	90-100	76-100	55-85	26-48	16-30	2-12
12:												
Pinavetes-----	0-4	Loamy sand	SM	A-2	0	0	100	100	77-84	19-26	0-24	NP-6
	4-60	Loamy sand	SM	A-2	0	0	100	100	77-85	17-25	18-28	3-10

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
18:												
Abiquiu-----	0-4	Silt loam	CL	A-4	0	0	100	100	89-99	73-83	24-37	9-17
	4-8	Fine sandy loam, loamy sand, sand	SC-SM, SM	A-4	0	0	100	100	87-97	41-51	16-27	2-10
	8-60	Stratified extremely cobble extremely gravelly coarse sand to extremely gravelly sand	GW, GW-GM	A-1	0	8-45	44-91	25-91	11-45	2-10	0-20	NP-4
Peralta-----	0-18	Loamy fine sand	SM	A-2	0	0	100	100	92-97	25-30	17-24	2-6
	18-65	Stratified loamy sand to clay loam	SC, SC-SM	A-4	0	0	100	100	77-97	17-37	20-40	6-21
20:												
Menefee-----	0-3	Loam	CL	A-6	0	0	100	100	87-92	64-69	33-41	13-17
	3-10	Clay loam	CL	A-6	0	0	89-100	74-100	65-94	51-74	39-47	21-25
	10-60	Bedrock			---	---	---	---	---	---	---	---
Vessilla-----	0-2	Sandy loam	SC-SM	A-2	0	0-10	100	100	72-82	35-45	21-32	6-13
	2-10	Sandy loam	SC-SM	A-4, A-2	0	0-9	90-100	75-100	54-82	25-44	18-30	4-12
	10-60	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
21:												
Werlog-----	0-6	Clay loam	CL	A-6	0	0	100	100	87-94	67-74	39-47	19-25
	6-55	Stratified fine sandy loam to clay loam	CL	A-6	0	0	100	100	81-98	61-78	29-46	12-25
	55-60	Stratified sand to cobble sand	SP	A-1	0-5	18-37	78-100	51-100	37-82	3-15	0-23	NP-6

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct.	Pct.						
	<u>In.</u>										<u>Pct.</u>	
22: Jocity-----	0-11	Sandy loam	SC-SM	A-2, A-4	0	0	100	94-100	68-82	33-45	21-32	6-13
	11-22	Fine sandy loam	SC-SM	A-4	0	0	100	94-100	83-98	36-49	20-31	6-13
	22-41	Sandy clay loam, clay loam	CL	A-6	0	0	100	95-100	82-96	64-77	35-46	17-25
	41-60	Fine sandy loam, sandy loam	SC-SM	A-4	0	0	100	94-100	68-82	33-45	20-31	6-13
Gilco-----	0-12	Loamy sand	SM	A-2	0	0	100	100	78-83	21-26	17-24	2-6
	12-50	Stratified loamy sand to sandy loam	CL-ML, SC-SM	A-4	0	0	86-100	65-100	60-100	46-79	20-30	6-12
	50-60	Stratified loamy sand to loam	SC, SC-SM	A-2	0	0	86-100	65-100	48-81	17-33	20-30	6-12
23: Gilco-----	0-14	Sandy clay loam	CL	A-6	0	0	100	100	82-92	45-55	30-41	13-21
	14-60	Stratified loamy sand to sandy loam	CL-ML, SC-SM	A-4	0	0	86-100	65-100	58-97	47-79	20-30	6-12
24: Jocity-----	0-14	Sandy clay loam	CL, SC	A-6	0	0	100	95-100	80-89	46-54	33-40	17-21
	14-33	Fine sandy loam	SC-SM	A-4	0	0	100	94-100	83-98	36-49	20-31	6-13
	33-60	Sandy clay loam, clay loam	CL	A-6	0	0	100	95-100	82-96	64-77	35-46	17-25
30: San Mateo-----	0-3	Sandy loam	SC-SM	A-4	0	0	100	100	72-82	35-45	21-32	6-13
	3-60	Stratified sandy loam to clay loam	CL	A-6	0	0	90-100	75-100	67-100	59-95	29-47	12-25

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct.	Pct.					Pct.	
	<u>In.</u>											
31:												
Gobernador-----	0-2	Silty clay loam	CL	A-6, A-7	0	0	100	100	95-100	83-90	39-49	19-25
	2-60	Clay, silty clay	CH, CL	A-7	0	0	100	100	90-100	73-83	49-61	29-37
Orlie-----	0-3	Loam	CL	A-6	0	0	81-100	57-100	49-93	36-71	33-43	13-18
	3-35	Clay loam	CL	A-6	0	0	83-100	62-100	59-100	52-90	39-47	19-25
	35-60	Clay loam, sandy clay loam	CL	A-6	0	0	83-100	62-100	59-100	52-90	37-46	19-25
34:												
Alcalde-----	0-3	Clay	CH	A-7	0	0	100	100	90-100	73-83	51-62	29-36
	3-60	Clay	CH, CL	A-7	0	0	100	100	83-100	71-90	49-68	29-43
39:												
Fruitland-----	0-7	Sandy loam	SM	A-2, A-4	0	0	86-100	65-100	48-79	23-41	17-24	2-6
	7-41	Fine sandy loam, sandy loam	SM	A-2, A-4	0	0	100	100	72-85	35-48	16-30	2-12
	41-60	Gravelly sandy loam	SC-SM	A-1, A-2, A-4	0	0	87-95	55-88	40-70	19-36	20-27	6-10
40:												
Pinitos-----	0-4	Fine sandy loam	SC-SM	A-4	0	0	100	100	92-97	43-48	26-32	9-13
	4-28	Sandy clay loam	CL, SC	A-6	0	0	100	100	79-94	44-59	31-46	13-25
	28-60	Sandy loam, sandy clay loam	SC, SC-SM	A-4, A-6	0	0	100	100	81-91	41-51	24-36	9-17
Menefee-----	0-2	Clay loam	CL	A-7	0	0	100	100	89-94	69-74	43-51	21-25
	2-10	Clay loam	CL	A-6	0	0	89-100	74-100	65-94	51-74	39-47	21-25
	10-60	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
40: Vessilla-----	0-2	Fine sandy loam	SC-SM	A-2, A-4	0	0-10	90-100	75-100	66-98	29-49	21-32	6-13
	2-10	Sandy loam, fine sandy loam	SC-SM	A-2, A-4	0	0-9	90-100	75-100	66-98	28-47	18-30	4-12
	10-60	Bedrock			---	---	---	---	---	---	---	---
42: Walrees-----	0-4	Clay loam	CL	A-6	0	0	100	100	87-94	67-74	39-49	19-25
	4-23	Silty clay loam	CL	A-6	0	0	100	100	80-97	61-78	28-45	12-25
	23-60	Stratified gravelly sand to cobbly sand	GW, GW-GM	A-1	0	12-37	45-74	34-74	24-65	2-16	0-28	NP-10
Abiquiu-----	0-3	Fine sandy loam	SC-SM	A-4	0	0	100	100	92-97	43-48	24-33	9-13
	3-17	Fine sandy loam, loamy sand, sand	SC-SM, SM	A-2	0	0	100	100	75-85	16-26	16-27	2-10
	17-60	Stratified extremely cobbly coarse sand to extremely gravelly sand	GW, GW-GM	A-1	0	16-45	44-81	25-81	12-42	2-11	0-20	NP-4
50: Stout-----	0-2	Slightly decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	2-5	Sandy loam	SC-SM	A-4	0	0-15	94-100	83-100	59-81	26-41	20-32	6-13
	5-14	Sandy loam			0	0	83-100	83-100	60-82	29-45	20-32	6-13
	14-60	Bedrock			---	---	---	---	---	---	---	---
Kunz-----	0-3	Sandy loam	SC-SM	A-4	0	0-6	94-100	81-100	58-82	28-45	22-35	6-13
	3-60	Sandy clay loam	CL	A-6	0	0-5	94-100	83-100	68-92	37-55	32-43	13-21

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
54: Capillo-----	0-4	Silt loam	CL	A-4, A-6	0	0	100	100	89-99	73-83	27-39	9-17
	4-11	Silt loam, loam	CL	A-4, A-6	0	0	100	100	94-100	78-93	26-41	9-21
	11-16	Clay	CL	A-7	0	0	100	100	95-100	90-100	45-56	25-33
	16-60	Clay, silty clay loam, clay loam	CL	A-7	0	0	100	100	88-98	70-80	45-56	25-33
60: Sparham-----	0-4	Clay loam	CL	A-7	0	0	100	100	91-95	72-76	45-50	25-28
	4-41	Clay	CH, CL	A-7	0	0	100	100	90-100	73-83	49-61	29-37
	41-54	Sandy clay	CH, CL	A-7	0	0	100	100	80-90	52-62	49-61	29-37
	54-60	Sandy loam	SC-SM	A-2, A-4	0	0	100	100	72-82	35-45	20-32	6-13
61: Colomex-----	0-6	Gravelly silt loam	CL-ML, GC-GM, SC-SM	A-4	0	0-18	65-80	46-80	40-78	32-64	22-35	6-13
	6-12	Gravelly sandy clay loam	GC, SC	A-2, A-6	0	0-11	65-82	43-82	35-75	19-44	30-41	13-21
	12-34	Extremely cobbly sandy clay loam, very cobbly sandy clay loam	GC	A-2	0	36-45	52-74	30-74	24-70	13-43	31-46	13-25
	34-60	Very gravelly loamy sand	GM, SM	A-1	0	15-36	54-78	34-78	25-66	6-20	16-27	2-10
64: Dula-----	0-11	Loam	CL	A-6	0	0	100	100	85-92	62-69	31-41	11-17
	11-28	Loam	CL	A-6	0	0	100	100	85-92	62-69	29-41	12-17
	28-60	Extremely gravelly coarse sand	GP	A-1	0	13-33	45-67	29-67	13-33	3-10	0-20	NP-2

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
65: Doslomas-----	0-7	Loam	CL	A-6	0	0	89-100	74-100	62-94	44-70	27-39	9-17
	7-28	Clay, clay loam	CL	A-7	0	0	90-100	76-100	66-100	51-82	39-55	21-32
	28-60	Extremely cobbly coarse sand	GW-GM	A-1	0	42-55	50-75	41-75	20-40	5-13	16-23	2-6
66: Encicado-----	0-17	Silty clay loam	CL	A-7	0	0	100	100	95-100	83-91	43-53	18-25
	17-35	Silty clay loam, clay loam, clay	CH, CL	A-7	0	0	100	100	94-100	90-100	45-62	25-36
	35-60	Extremely cobbly clay loam, extremely cobbly sandy clay loam	GC	A-2	0-6	43-60	34-72	20-72	18-72	16-63	39-51	21-29
69: Lindrith-----	0-11	Silty clay loam	CL	A-6	0	0	90-100	75-100	72-100	63-90	38-46	19-24
	11-67	Stratified loamy sand to sandy loam	SC-SM	A-2, A-4	0	0	90-100	76-100	66-98	26-44	18-30	4-12
Royosa-----	0-2	Sandy loam	SM	A-2	0	0	100	100	68-78	19-29	22-35	6-13
	2-60	Loamy sand	SM	A-2	0	0	100	100	74-84	25-35	0-23	NP-6
70: Sparham-----	0-2	Clay loam	CL	A-7	0	0	86-100	65-100	59-95	47-77	45-51	25-29
	2-35	Clay loam, silty clay, silty clay loam, clay	CH, CL	A-7	0	0	86-100	64-100	58-100	48-95	45-65	25-40
	35-60	Clay	CH, CL	A-7	0	0	86-100	64-100	54-100	46-87	49-65	29-40

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	<u>In.</u>				<u>Pct.</u>	<u>Pct.</u>					<u>Pct.</u>	
80:												
Orlie-----	0-3	Loam	CL	A-6	0	0	81-100	57-100	49-93	36-71	33-43	13-18
	3-35	Clay loam	CL	A-6	0	0	83-100	62-100	59-100	52-90	39-47	19-25
	35-60	Clay loam, sandy clay loam	CL	A-6	0	0	83-100	62-100	59-100	52-90	37-46	19-25
Nalivag-----	0-3	Loam	CL	A-6	0	0	95-100	84-100	70-95	50-71	26-39	9-19
	3-60	Loam, clay loam	CL	A-6	0	0	90-100	76-100	64-99	48-77	32-47	13-25
102:												
Menefee-----	0-2	Clay loam	CL	A-7	0	0	100	100	89-94	69-74	43-51	21-25
	2-14	Clay loam	CL	A-6	0	0	89-100	74-100	65-94	51-74	39-47	21-25
	14-60	Bedrock			---	---	---	---	---	---	---	---
Nalivag-----	0-4	Loam	CL	A-6	0	0	95-100	84-100	70-95	50-71	26-39	9-19
	4-60	Loam, clay loam	CL	A-6	0	0	90-100	76-100	64-99	48-77	32-47	13-25
103:												
Orlie-----	0-3	Fine sandy loam	SC-SM	A-4	0	0	81-100	58-100	53-97	25-48	29-37	9-13
	3-13	Clay loam	CL	A-6	0	0	83-100	62-100	54-94	42-74	39-47	19-25
	13-60	Clay loam, sandy clay loam	CL	A-6	0	0	83-100	62-100	51-89	30-55	37-46	19-25
106:												
Amal-----	0-4	Silt loam	CL	A-6	0	0	100	100	95-100	90-99	29-41	12-19
	4-43	Silty clay loam, clay loam	CL	A-6	0	0	100	100	96-100	79-86	37-46	19-25
	43-60	Silty clay loam	CL	A-6	0	0	100	100	96-100	79-86	37-46	19-25
107:												
Berryman-----	0-3	Silt loam	CL	A-6	0	0	100	100	90-98	75-83	29-40	12-18
	3-80	Silty clay loam	CL	A-6, A-7	0	0	100	100	89-100	78-95	29-46	12-25

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	<u>In.</u>				<u>Pct.</u>	<u>Pct.</u>					<u>Pct.</u>	
110: Orlie-----	0-4	Silt loam	CL	A-6	0	0	80-100	55-100	50-99	42-85	31-43	11-18
	4-14	Clay loam	CL	A-6	0	0	83-100	62-100	54-94	42-74	39-47	19-25
	14-60	Clay loam, sandy clay loam	CL	A-6	0	0	83-100	62-100	54-94	42-74	37-46	19-25
113: Teromote-----	0-2	Loam	CL-ML	A-4	0	0	100	100	85-91	60-66	23-31	7-12
	2-12	Loam, clay loam, sandy clay loam	CL	A-6	0	0	100	100	84-99	62-77	31-47	13-25
	12-65	Silty clay loam, clay loam, loam	CL	A-6	0	0	100	100	84-99	62-77	31-46	13-25
Ruson-----	0-3	Clay loam	CL	A-6	0	0	82-100	59-100	51-94	39-74	39-49	19-25
	3-65	Silty clay, clay	CH, CL	A-7	0	0	83-100	62-100	56-100	46-83	49-61	29-37
115: Menefee-----	0-2	Channery loam	CL, GC, SC	A-6	0	0-11	73-85	50-85	42-81	31-62	33-45	13-21
	2-11	Clay loam	CL	A-6	0	0	89-100	74-100	65-94	51-74	39-47	21-25
	11-60	Bedrock			---	---	---	---	---	---	---	---
117: Chamita-----	0-7	Loam	CL	A-6	0	0	100	100	87-92	64-69	33-41	13-17
	7-36	Loam	CL	A-6	0	0	100	100	85-94	62-71	31-45	12-19
	36-55	Loam, clay loam	CL	A-6	0	0	100	100	82-99	60-77	31-49	12-25
	55-60	Gravelly sandy loam, loam	SM	A-1, A-2	0	0	91-100	51-95	38-75	18-39	17-24	2-6
118: Hesperus-----	0-4	Loam	CL, CL-ML, ML	A-4	0	0-5	89-100	78-100	65-93	45-68	25-41	6-13
	4-60	Loam	CL	A-6	0	0-5	89-100	78-100	66-99	49-78	31-49	13-24

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
118: Pastorius-----	0-12	Silt loam	CL	A-6	0	0-19	93-100	79-100	70-99	58-83	29-43	9-17
	12-20	Cobbly loam	CL	A-6	0	24-37	86-95	73-95	62-88	45-66	29-41	12-17
	20-60	Very cobbly sandy clay loam, very cobbly loam	CL	A-6	0-5	37-48	74-93	56-93	48-88	35-68	29-41	13-21
Chamita-----	0-10	Clay loam	CL	A-7	0	0	100	100	87-95	67-75	41-51	19-25
	10-36	Loam	CL	A-6	0	0	100	100	85-94	62-71	31-45	12-19
	36-60	Loam, clay loam	CL	A-6	0	0	100	100	79-96	57-74	31-49	12-25
119: Roques-----	0-2	Clay loam	CL	A-7	0	0	100	100	90-95	72-77	45-53	25-29
	2-60	Clay	CH, CL	A-7	0	0	100	100	85-100	72-87	49-65	29-40
Nusmag-----	0-3	Clay loam	CL	A-7	0	0	100	100	88-96	70-78	45-55	22-28
	3-60	Clay	CH	A-7	0	0	100	100	85-100	72-87	50-66	29-40
125: Hogg-----	0-3	Loam	CL	A-6	0	0	88-100	71-100	61-94	44-71	29-41	12-19
	3-60	Clay, clay loam	CH, CL	A-7	0	0	84-100	63-100	56-100	46-88	45-61	25-36
Mara-----	0-2	Loam	CL	A-6	0	0	100	100	95-100	74-84	27-39	11-19
	2-18	Clay loam, silty clay loam	CL	A-6	0	0	100	100	95-100	79-87	38-47	19-25
	18-60	Clay loam	CL	A-6	0	0	95-100	90-100	85-100	71-87	37-46	19-25
127: Rombo-----	0-4	Clay	CH	A-7	0	0	90-100	76-100	68-100	55-83	50-62	29-36
	4-21	Clay	CH, CL	A-7	0	0	83-90	69-90	62-89	50-75	49-61	29-37
	21-37	Clay	CH, CL	A-7	0	0	83-90	69-90	62-89	50-75	49-61	29-37
	37-60	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct.	Pct.					Pct.	
	<u>In.</u>											
127: Wiggler-----	0-3	Channery clay loam	GC	A-6	0	0	61-66	48-66	43-62	33-49	38-47	19-23
	3-10	Clay loam	CL	A-6	0	0	89-100	74-100	59-94	44-73	29-44	12-23
	10-60	Bedrock			---	---	---	---	---	---	---	---
129: Nusmag-----	0-2	Clay loam	CL	A-7	0	0	100	100	88-96	70-78	45-55	22-28
	2-60	Clay	CH	A-7	0	0	100	100	85-100	72-87	50-66	29-40
Tottles-----	0-6	Clay loam	CL	A-7	0	0	100	100	89-94	69-74	43-51	21-25
	6-21	Clay	CH	A-7	0	0	100	100	91-96	74-79	50-58	28-32
	21-60	Clay	CH	A-7	0	0	100	100	85-100	72-87	51-66	29-40
130: Topetaul-----	0-6	Cobbly silt loam	CL	A-6	0	27-40	86-100	64-100	58-99	49-85	29-41	12-19
	6-13	Very cobbly silt loam	GC, SC	A-2, A-6	0	37-44	67-90	39-90	36-88	31-76	30-38	13-19
	13-28	Very gravelly clay	GC	A-2, A-7	0	22-27	58-71	40-71	35-71	28-59	45-61	25-37
	28-60	Extremely cobbly clay	GC	A-2	0	41-55	40-75	23-75	19-75	16-63	45-61	25-37
Hogg-----	0-7	Loam	CL	A-6	0	0	88-100	71-100	61-94	44-71	29-41	12-19
	7-25	Clay, clay loam	CH, CL	A-7	0	0	84-100	63-100	56-100	46-88	45-61	25-36
	25-60	Gravelly clay, clay loam, clay	CH, CL	A-7	0	0	76-90	56-90	49-90	40-78	45-61	25-37
132: Stout-----	0-3	Flaggy loam	CL	A-4	0	23-36	95-100	86-100	72-94	52-70	26-37	9-17
	3-14	Sandy loam, loam	SC-SM	A-4	0	0-15	94-100	83-100	70-94	50-70	24-36	9-17
	14-18	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct.	Pct.					Pct.	
	<u>In.</u>											
132: Carjo-----	0-5	Very flaggy loam	GC, SC	A-6	0	32-50	61-85	39-85	33-80	24-61	29-41	12-19
	5-10	Flaggy clay loam	CL	A-6	0	22-35	100	100	87-97	67-77	39-51	21-29
	10-38	Clay loam, clay	CH, CL	A-7	0	0	100	100	90-100	73-88	45-62	25-36
	38-60	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
133: Carrick-----	0-3	Silt loam	CL	A-6	0	0	100	100	91-98	78-85	31-41	13-19
	3-9	Silty clay loam	CL	A-6	0	0	100	100	96-100	84-90	37-46	19-24
	9-60	Silty clay loam, silty clay	CH, CL	A-7	0	0	100	100	95-100	91-100	45-61	25-37
136: Elpedro-----	0-3	Silt loam	CL	A-4	0	0	94-100	82-100	79-100	73-96	26-34	9-15
	3-25	Silty clay loam	CL	A-7	0	0	95-100	84-100	77-100	74-100	31-46	14-25
	25-60	Loam, silt loam, silty clay loam	CL	A-6	0	0	95-100	85-100	77-100	74-100	29-44	13-25
137: Yata-----	0-10	Loam	CL	A-6	0	0	100	100	87-92	64-69	33-41	13-17
	10-21	Cobbly silty clay loam	CL	A-7	0	24-28	87-95	75-95	72-95	68-92	45-53	25-29
	21-60	Very cobbly silty clay	CH, GC	A-7	0	37-39	70-86	50-86	47-86	45-85	51-62	29-36
Eody-----	0-4	Loam	CL	A-6	0	0	100	100	86-93	64-71	31-41	13-19
	4-60	Silty clay loam, silty clay, clay	CH, CL	A-7	0	0	100	100	95-100	91-100	45-62	25-36

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
140:												
Espiritu-----	0-5	Very cobbly loam	GC	A-2, A-6	0-6	32-43	58-76	41-76	35-72	25-54	29-41	12-19
	5-19	Very cobbly clay loam	GC	A-2, A-6	0	27-35	61-73	46-73	40-70	31-56	36-47	17-25
	19-40	Very cobbly sandy clay loam	GC	A-2	0-5	27-37	59-80	41-80	34-71	18-40	29-36	13-17
	40-60	Very cobbly sandy loam	GC-GM	A-2	0-5	27-37	62-80	46-80	34-65	17-36	22-32	7-13
Wauquie-----	0-3	Very gravelly loam	GC-GM	A-2, A-4	0-6	17-31	53-77	25-77	21-71	14-52	21-32	6-13
	3-13	Very gravelly sandy clay loam	GC	A-2	0-5	5-15	51-63	39-63	32-58	17-34	29-40	13-21
	13-19	Extremely cobbly sandy clay loam	GC	A-2	0-10	36-55	47-70	35-70	28-64	15-38	29-40	13-21
	19-60	Very cobbly sandy loam, very cobbly loam	GC-GM	A-2, A-4	0-10	32-38	63-79	55-79	46-71	32-50	20-27	6-10
141:												
Capillo-----	0-4	Loam	CL	A-4, A-6	0	0	100	100	84-94	60-70	27-39	9-17
	4-11	Silt loam, loam	CL	A-4, A-6	0	0	100	100	89-99	73-83	26-37	9-17
	11-16	Silty clay loam, clay	CL	A-7	0	0	100	100	89-99	72-82	45-56	25-33
	16-60	Clay, clay loam	CL	A-7	0	0	100	100	89-99	72-82	45-56	25-33
Carjo-----	0-4	Flaggy loam	CL	A-6	0	27-40	86-100	64-100	55-94	40-71	29-41	12-19
	4-31	Clay loam, clay	CH, CL	A-7	0	0	100	100	86-100	69-84	45-62	25-36
	31-60	Bedrock			---	---	---	---	---	---	---	---
Vamer-----	0-2	Channery loam	CL	A-4, A-6	0	12-17	81-89	65-89	55-84	39-62	27-39	9-17
	2-19	Clay, clay loam, silty clay loam	CH, CL	A-7	0	0-14	95-100	85-100	76-100	61-88	45-60	25-36
	19-60	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
142: Pinavetes-----	0-2	Loamy sand	SM	A-2	0	0	100	100	77-84	19-26	0-24	NP-6
	2-60	Loamy sand	SC, SC-SM	A-2	0	0	100	100	77-85	17-25	18-28	3-10
145: Dermala-----	0-3	Very gravelly loam	GC-GM	A-2	0	0-16	53-64	39-64	33-59	23-43	21-31	6-12
	3-12	Clay loam	CL, SC	A-6	0	0	85-94	70-94	62-89	47-70	37-46	19-25
	12-32	Gravelly clay loam	CL, GC, SC	A-6	0	0-10	69-83	53-83	44-77	33-60	29-40	13-21
	32-60	Clay loam	CL, SC	A-6	0	0	85-94	71-94	62-89	47-70	37-46	19-25
Rosced-----	0-5	Very gravelly sandy loam	GC-GM	A-1, A-2	0	0-15	43-57	35-57	26-45	12-23	22-31	6-10
	5-16	Gravelly sandy loam	SC-SM	A-1, A-2	0	10-15	67-76	59-76	44-60	21-31	20-27	6-10
	16-33	Very gravelly sandy loam	GC-GM	A-1, A-2	0	10-15	53-64	35-64	26-51	12-26	20-27	6-10
	33-60	Very gravelly coarse sand, extremely gravelly loamy coarse sand	GW-GM	A-1	0	11-17	48-61	27-61	13-31	3-9	0-21	NP-4
146: Parida-----	0-3	Very gravelly sandy loam	GC-GM	A-2	0	0-15	49-66	30-66	22-53	11-29	21-31	6-12
	3-28	Gravelly sandy loam	SC-SM	A-2, A-4	0	0-15	69-83	51-83	37-67	18-36	20-30	6-12
	28-65	Gravelly sandy loam	SC-SM, SM	A-2, A-4	0	0-15	69-83	51-83	37-68	17-36	18-30	3-12
Palacid-----	0-4	Very gravelly sandy loam	GC-GM	A-2	0	0-15	49-66	30-66	22-54	11-30	21-32	6-13
	4-14	Loam, clay loam	CL	A-6	0	0-10	82-94	63-94	52-93	38-73	30-47	12-25
	14-45	Clay loam	CL	A-6	0	0-10	82-94	63-94	55-90	42-70	37-46	19-25
	45-68	Gravelly clay loam, gravelly loam	CL, GC, SC	A-6	0	0	67-81	47-81	38-79	28-62	29-46	12-25
147: Dermala-----	0-4	Very gravelly loam	GC-GM	A-2	0	0-16	53-64	39-64	33-59	23-43	21-31	6-12
	4-60	Gravelly clay loam	CL, GC, SC	A-6	0	0-10	69-83	53-83	43-76	32-59	29-40	13-21

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
147: Chimayo-----	0-3	Very gravelly sandy loam	GC-GM	A-2	0	0	49-55	34-55	25-44	12-24	21-31	6-12
	3-13	Gravelly sandy loam	GC-GM	A-2	0	0	55-61	40-61	29-49	14-26	20-30	6-12
	13-60	Bedrock			---	---	---	---	---	---	---	---
148: Chita-----	0-3	Loam	CL-ML	A-4	0	0	100	94-100	90-100	68-81	21-32	6-13
	3-10	Loam	CL-ML	A-4	0	0	100	95-100	90-100	69-81	20-31	6-13
	10-38	Clay loam, silty clay loam	CL	A-6	0	0	100	95-100	91-100	88-99	37-46	19-25
	38-60	Gravelly sandy clay loam, gravelly clay loam	CL, GC, SC	A-6	0	0-10	69-83	53-83	50-83	35-63	29-40	13-21
149: Yarts-----	0-3	Sandy loam	SC-SM	A-4, A-6	0	0	100	100	74-80	37-43	23-31	7-12
	3-60	Fine sandy loam	SC-SM	A-4	0	0	100	100	89-97	39-47	20-30	6-12
151: Razito-----	0-4	Loamy sand	SM	A-2	0	0	100	100	77-84	19-26	0-24	NP-6
	4-60	Loamy sand	SM	A-2	0	0	100	100	77-84	19-26	0-23	NP-6
Fruitland-----	0-3	Sandy loam	SM	A-2, A-4	0	0	86-100	65-100	48-79	23-41	17-24	2-6
	3-50	Fine sandy loam, sandy loam	SM	A-4	0	0	100	100	85-98	41-54	16-30	2-12
	50-60	Loamy sand, loamy fine sand	SM	A-2	0	0	100	95-100	87-97	24-30	16-23	2-6

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct.	Pct.					Pct.	
	<u>In.</u>											
170: Sedillo-----	0-12	Cobbly loam	CL, SC	A-6	0	16-28	77-92	58-92	50-86	36-65	29-41	12-19
	12-36	Cobbly sandy clay loam, very cobbly sandy clay loam	GC	A-2, A-6	0-10	28-46	57-85	39-85	31-80	17-50	31-46	13-25
	36-60	Very cobbly sandy loam, extremely cobbly sandy loam	GC-GM, SC-SM	A-1, A-2	5-18	37-54	56-95	31-95	22-77	10-41	18-29	4-11
173: Oelop-----	0-5	Fine sandy loam	SC-SM	A-4	0	0	100	100	90-97	39-46	22-30	6-11
	5-45	Sandy clay loam, clay loam	CL	A-6	0	0	100	100	80-97	60-77	29-46	12-25
	45-60	Sandy loam, sandy clay loam, clay loam	SC-SM	A-2, A-4	0	0	100	100	73-80	35-42	20-29	6-11
180: Oelop-----	0-1	Loam	CL	A-6	0	0	100	100	85-94	62-71	29-41	12-19
	1-60	Loam, clay loam, sandy clay loam	CL	A-6	0	0	100	100	80-97	60-77	29-46	12-25
182: Oelop-----	0-3	Sandy loam	SC-SM	A-2, A-4	0	0	100	100	73-80	35-42	21-30	6-11
	3-11	Clay loam, sandy clay loam	CL	A-6	0	0	100	100	87-95	67-75	35-44	18-25
	11-60	Loam, sandy clay loam, clay loam	CL	A-6	0	0	100	100	82-92	45-55	29-40	13-21

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
190: Sedillo-----	0-5	Loam	CL	A-6	0	0-11	100	100	85-94	62-71	29-41	12-19
	5-25	Cobbly sandy clay loam, very cobbly sandy clay loam	GC	A-2, A-6	0-10	28-46	57-85	39-85	31-80	17-50	31-46	13-25
	25-60	Very cobbly sandy loam, extremely cobbly sandy loam	GC-GM, SC-SM	A-1, A-2	5-18	37-54	56-95	31-95	22-77	10-41	18-29	4-11
200: Katlon-----	0-4	Slightly decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	4-18	Silt loam	CL	A-6	0	0	100	100	88-100	73-85	29-43	9-18
	18-31	Silt loam	CL	A-6	0	0	100	100	88-100	73-85	27-41	9-19
	31-80	Silty clay loam, silty clay	CL	A-7	0	0	100	100	94-100	90-100	45-58	25-32
201: Lobat-----	0-1	Slightly decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	1-7	Gravelly loam	CL, SC	A-6	0	11-16	76-81	67-81	57-76	42-58	29-41	12-19
	7-48	Gravelly clay loam	CL, GC, SC	A-6	0	10-14	77-91	54-91	47-86	37-69	38-46	19-24
	48-60	Gravelly sandy clay loam	SC	A-2, A-6	0	0-10	74-84	60-84	47-79	26-49	31-46	13-25
Abreu-----	0-2	Slightly decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	2-4	Gravelly loam	CL, GC, SC	A-6	0	12-18	69-89	43-89	37-83	27-63	29-41	12-19
	4-15	Very gravelly loam	GC	A-2, A-6	0	12-18	50-63	28-63	24-60	17-45	27-38	12-19
	15-58	Very gravelly clay loam	GC	A-2, A-6	0	15-23	54-66	39-66	34-63	26-50	37-46	19-25
	58-60	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
208: Ess-----	0-13	Gravelly loam	CL, GC-GM, SC-SM	A-6	0	5-20	72-86	53-86	45-82	33-63	31-43	13-21
	13-40	Very cobbly sandy clay loam, very gravelly sandy clay loam	GC, SC	A-2, A-6	0-5	5-51	56-88	15-88	13-81	7-48	32-45	13-21
	40-60	Very gravelly sandy clay loam	GC-GM, SC-SM	A-1, A-2	0-5	5-50	44-89	8-89	6-77	3-40	20-34	6-15
Croftshaw-----	0-10	Loam	CL	A-6	0	0	88-100	71-100	60-94	43-70	27-39	9-17
	10-60	Clay loam	CL	A-6	0	0	83-95	67-95	58-90	44-71	38-47	19-25
209: Crubas-----	0-3	Slightly decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	3-15	Clay loam	CL	A-6, A-7	0	0	100	100	85-97	66-78	38-52	19-28
	15-37	Clay	CH, CL	A-7	0	0	100	100	90-100	73-83	49-62	29-36
	37-60	Gravelly clay	CH, CL, GC, SC	A-7	0	0	68-82	48-82	43-81	35-68	49-61	29-37
Bywell-----	0-4	Silt loam	CL	A-6	0	0	88-100	71-100	64-97	54-82	29-39	12-17
	4-11	Loam	CL	A-6	0	0	88-100	71-100	61-92	44-69	29-39	12-17
	11-42	Very cobbly sandy loam, very cobbly coarse sandy loam	GC-GM, SC-SM, SC	A-2, A-1	0	28-36	64-81	42-81	24-54	14-33	20-30	6-12
	42-60	Fragmental material	GW	A-1	---	---	---	---	---	---	---	---
Croftshaw-----	0-8	Loam	CL	A-6	0	0	88-100	71-100	60-94	43-70	27-39	9-17
	8-28	Clay loam	CL	A-6	0	0	83-95	67-95	58-90	44-71	38-47	19-25
	28-60	Sandy loam	SC-SM	A-4	0	0	83-94	65-94	48-75	23-39	24-32	9-13

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
215: Saragote-----	0-1	Slightly decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	1-9	Loam	CL	A-6	0	0	100	100	85-92	62-69	31-41	11-17
	9-60	Very cobbly clay loam, very cobbly clay	CH, CL	A-7	0	34-44	71-91	53-91	47-91	38-80	45-62	25-36
Ess-----	0-12	Gravelly loam	CL, GC-GM, SC-SM	A-6	0	5-20	72-86	53-86	45-82	33-63	31-43	13-21
	12-40	Very cobbly clay loam	GC, SC	A-2, A-6	0-5	5-51	56-88	15-88	13-81	7-48	32-45	13-21
	40-60	Very gravelly sandy clay loam	GC-GM, SC-SM	A-1, A-2	0-5	5-50	44-89	8-89	6-77	3-40	20-34	6-15
216: Angostura-----	0-12	Very cobbly sandy loam	SC-SM	A-2	10-17	26-34	69-87	50-87	37-69	18-36	27-35	9-13
	12-60	Extremely gravelly sandy clay loam, extremely gravelly clay loam	GC	A-2	10-14	22-26	54-68	41-68	34-62	18-37	29-41	13-21
220: Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
Vessilla-----	0-2	Sandy loam	SC-SM	A-2	0	0-10	100	100	72-82	35-45	21-32	6-13
	2-10	Sandy loam	SC-SM	A-2, A-4	0	0-9	90-100	75-100	54-82	25-44	18-30	4-12
	10-60	Bedrock			---	---	---	---	---	---	---	---
Menefee-----	0-1	Clay loam	CL	A-7	0	0	100	100	89-94	69-74	43-51	21-25
	1-10	Clay loam	CL	A-6	0	0	89-100	74-100	65-94	51-74	39-47	21-25
	10-60	Bedrock			---	---	---	---	---	---	---	---

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
					Pct.	Pct.					Pct.	
	<u>In.</u>											
228:												
Suposo-----	0-4	Clay loam	CL	A-7	0	0	100	100	87-97	67-77	43-55	21-28
	4-16	Clay	CH	A-7	0	0	100	100	85-100	72-87	51-68	29-40
	16-31	Clay	CH	A-7	0	0	100	100	85-100	72-87	51-68	29-40
	31-60	Clay, clay loam	CH, CL	A-7	0	0	100	100	85-100	72-87	49-66	29-40
Brycan-----	0-10	Loam	CL	A-4	0	0	100	100	86-91	61-66	29-39	9-13
	10-60	Clay loam	CL	A-6	0	0	100	100	84-92	63-71	33-43	14-21
230:												
Badland-----	0-60	Bedrock			---	---	---	---	---	---	---	---
240:												
Riverwash, gravelly-----	0-6	Extremely gravelly coarse sand	GW, GP	A-1	0	0-11	40-100	20-100	10-46	0-11	0-14	NP
	6-60	Stratified coarse sand to sandy loam	SW-SM, SP-SM	A-1	0	0-4	90-100	70-100	30-47	6-11	0-19	NP-2
241:												
Florita-----	0-3	Gravelly fine sandy loam	GC-GM, SC-SM	A-2	0	0	64-77	45-77	41-74	18-34	21-28	6-10
	3-38	Sandy loam	SC-SM	A-4	0	0	100	100	74-79	36-41	20-27	6-10
	38-60	Sandy loam	SC-SM	A-4	0	0	100	100	74-79	36-41	20-27	6-10
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
242:												
Tinaja-----	0-4	Extremely gravelly loam	GC	A-2	0-17	17-31	37-62	25-62	21-59	15-45	30-41	13-21
	4-43	Very cobbly sandy clay loam, very cobbly clay loam	GC	A-2, A-6	5-15	32-38	66-82	55-82	45-75	24-45	29-40	13-21
	43-60	Sandy loam	SC-SM	A-2, A-4	0	0	90-100	76-100	56-79	27-41	24-32	9-13

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
242: Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
243: Penistaja-----	0-3	Fine sandy loam	SC-SM	A-4	0	0	100	100	88-98	39-49	22-35	6-13
	3-18	Sandy clay loam	CL, SC	A-6	0	0	100	100	82-92	45-55	29-40	13-21
	18-60	Sandy loam	CL, SC, SC-SM	A-4, A-6	0	0	100	100	81-91	41-51	20-32	6-13
244: Scholle-----	0-7	Loam	CL	A-4, A-6	0	0	84-100	59-100	50-94	35-70	27-39	9-17
	7-17	Sandy clay loam	CL	A-6	0	0	90-100	76-100	62-92	34-55	29-40	13-21
	17-24	Gravelly clay loam	CL	A-6	0	0-10	73-83	58-83	51-78	39-61	37-45	19-24
	24-60	Gravelly sandy clay loam, very gravelly sandy loam	GC	A-2, A-6	0	10-15	64-75	48-75	38-71	20-44	29-45	12-24
Silver-----	0-2	Loam	CL	A-6	0	0	94-100	83-100	72-93	53-71	31-41	13-19
	2-34	Clay, clay loam	CH, CL	A-7	0	0	95-100	85-100	76-100	62-88	45-61	25-37
	34-48	Sandy clay loam	CL, SC	A-6	0	0	95-100	85-100	71-89	42-55	39-46	21-25
	48-60	Cobbly sandy clay loam	CL, SC	A-6	0	15-27	96-100	86-100	72-89	42-55	39-46	21-25
245: Maia-----	0-10	Loam	CL	A-4	0	0	90-100	74-100	64-91	46-66	27-39	9-13
	10-16	Sandy clay loam, clay loam	CL	A-6	0	0	90-100	76-100	65-96	51-77	35-47	17-25
	16-25	Gravelly clay loam	GC, SC	A-6	0	0	68-82	48-82	42-79	32-63	36-47	17-25
	25-60	Gravelly loam	GC-GM, SC-SM	A-2, A-4	0	0	68-82	48-82	40-76	29-57	24-36	9-17
Manzano-----	0-3	Fine sandy loam	SC-SM	A-4	0	0	94-100	83-100	76-97	36-48	27-37	9-13
	3-49	Loam	CL	A-6	0	0	94-100	83-100	72-93	53-71	30-41	13-19
	49-60	Gravelly loamy sand	SM	A-1	0	0-16	68-82	50-82	39-68	10-21	16-23	2-6

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
246: Pena-----	0-2	Gravelly sandy loam	GC-GM, SC-SM	A-2	0	0	67-80	46-80	34-66	16-36	22-35	6-13
	2-30	Very cobbly sandy loam, very cobbly loam, cobbly sandy loam	SC-SM	A-2	0-11	28-36	78-93	60-93	44-74	22-38	27-35	9-13
	30-60	Very cobbly sandy loam, very cobbly loam	SC-SM	A-2	0-16	39-43	79-95	64-95	47-75	23-39	24-32	9-13
247: Wenota-----	0-8	Silty clay loam	CL	A-7	0	0	100	100	96-100	91-96	45-53	25-29
	8-60	Clay	CL	A-7	0	0	100	100	88-98	70-80	43-55	25-32
248: Hagerman-----	0-3	Fine sandy loam	SC-SM	A-4	0	0	95-100	85-100	75-98	33-49	22-32	6-13
	3-24	Sandy clay loam, clay loam, sandy loam	CL, SC	A-6	0	0	95-100	85-100	66-95	36-59	29-46	12-25
	24-60	Bedrock			---	---	---	---	---	---	---	---
Silver-----	0-4	Fine sandy loam	SC	A-4	0	0	95-100	84-100	77-97	36-48	27-35	9-13
	4-60	Clay, clay loam, sandy clay loam	CH, CL	A-7	0	0	95-100	85-100	76-100	62-88	45-61	25-37
249: Losmarios-----	0-6	Extremely cobbly sandy clay loam	GC	A-2	0-5	42-55	53-77	32-77	26-70	14-42	30-41	13-21
	6-29	Clay, silty clay	CH	A-7	0	0	90-100	76-100	70-100	69-100	54-69	32-44
	29-60	Silty clay	CH	A-7	0	0	90-100	76-100	70-100	69-100	54-69	32-44

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
302: Puye-----	0-3	Gravelly sandy loam	SC-SM, SM	A-1, A-2	0	0-12	71-83	47-83	32-70	14-38	17-35	2-13
	3-15	Gravelly sandy loam	SC-SM, SM	A-1, A-2	0	0-12	71-83	47-83	32-70	14-38	16-32	2-13
	15-16	Cemented material			---	---	---	---	---	---	---	---
	16-60	Very gravelly loamy sand, very gravelly sand, very gravelly loamy coarse sand	GW-GM, SM	A-1	0	0-12	51-63	27-63	20-53	7-22	0-23	NP-6
401: Chiminet-----	0-1	Slightly decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	1-3	Sandy loam	SC-SM, SM	A-2, A-4	0	0	85-100	70-100	51-83	25-45	18-31	2-10
	3-10	Gravelly sandy loam	SC-SM, SM	A-1, A-2	0	0-5	66-78	49-78	36-64	17-35	16-27	2-10
	10-60	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	0-60	Bedrock			---	---	---	---	---	---	---	---
407: Totavi-----	0-3	Slightly decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	3-6	Gravelly loam	CL-ML, SC-SM	A-4	0	0-16	65-74	43-74	36-69	25-50	22-35	6-13
	6-28	Sandy loam	SC-SM, SM, SC	A-2, A-4	0	0-16	85-100	63-100	45-85	22-48	17-31	2-12
	28-60	Gravelly loamy sand, gravelly sandy loam	SM	A-1, A-2	0	0-16	67-86	39-86	29-71	15-41	0-23	NP-6
704: Chrishall-----	0-17	Gravelly loam	GC-GM	A-4	0	0	66-77	48-77	40-72	28-52	27-41	6-13
	17-60	Gravelly fine sandy loam, gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1, A-2, A-4	0	0	72-94	35-94	31-91	15-48	18-31	2-10

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
710: Calaveras-----	0-3	Slightly decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	3-9	Very gravelly sandy loam	GC-GM	A-2	11-17	0-6	52-67	32-67	23-55	11-30	22-37	6-13
	9-60	Very cobbly sandy clay loam, extremely cobbly sandy clay loam	GC, SC	A-2	16-24	28-46	57-92	27-92	22-84	12-50	29-40	13-21
Palon-----	0-1	Slightly decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	1-16	Very gravelly sandy loam	GC-GM, GM	A-1, A-2	0	0-24	48-68	32-68	23-57	11-31	18-31	2-10
	16-40	Very gravelly loamy sand	GM, GW-GM	A-1	0-5	16-46	45-80	26-80	19-68	6-28	0-24	NP-6
	40-60	Extremely cobbly sandy loam	GC-GM	A-1, A-2	0-5	43-56	56-76	41-76	30-61	14-33	20-30	6-12
711: Laventana-----	0-5	Cobbly loam	CL	A-4	0-6	17-26	85-95	69-95	58-89	41-67	27-41	9-17
	5-11	Cobbly fine sandy loam	SC-SM	A-2, A-4	0-5	15-27	86-96	71-96	63-94	28-47	20-32	6-13
	11-23	Cobbly sandy clay loam	SC	A-2, A-6	0	15-23	86-96	73-96	59-88	32-52	30-40	13-21
	23-60	Very stony sandy clay loam, extremely stony sandy clay loam	SC	A-2, A-6	37-43	26-43	85-100	66-100	54-92	29-55	29-40	13-21

Table 17.--Engineering properties--Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In.				Pct.	Pct.					Pct.	
719: Alanos-----	0-1	Slightly decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	1-7	Very cobbly loam	GC, GC-GM	A-2, A-4, A-6	0	29-44	61-84	38-84	31-80	21-60	22-41	6-17
	7-27	Very cobbly clay, very cobbly clay loam	CH, CL, GC, SC	A-7	0-5	27-37	63-86	41-86	34-86	28-76	46-66	25-40
	27-39	Extremely cobbly sandy clay loam	GC	A-2	0-10	36-45	53-72	39-72	31-66	17-39	29-40	13-21
	39-60	Extremely cobbly sandy loam	GC-GM	A-1, A-2	11-16	36-45	50-76	41-76	29-62	14-34	20-32	6-13
802: Redondo-----	0-2	Slightly decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	2-5	Gravelly sandy clay loam	SC	A-2, A-6	0	0-12	67-84	44-84	36-77	20-46	31-45	13-21
	5-16	Gravelly sandy clay loam	SC	A-2, A-6	0	0-10	69-86	48-86	39-78	21-47	30-41	13-21
	16-60	Very cobbly sandy clay loam, extremely stony sandy clay loam	GC, SC	A-2	0	28-42	56-79	34-79	28-72	15-43	29-40	13-21
803: Rusbach-----	0-2	Slightly decomposed plant material	PT	A-8	0	0	---	---	---	---	---	---
	2-16	Cobbly sandy loam	SC-SM, SM	A-1, A-2	0	16-24	75-96	50-96	37-79	18-43	16-28	2-10
	16-25	Cobbly loamy sand	SM	A-1, A-2	0	16-24	76-96	51-96	40-79	11-25	16-23	2-6
	25-70	Very cobbly loamy sand, extremely cobbly loamy sand	GM, SM	A-1	0	27-49	55-85	28-85	22-70	6-22	16-23	2-6
DAM: Dam-----	---	---	---	---	---	---	---	---	---	---	---	---

Table 18.--Physical soil properties

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
9:														
Pinavetes-----	0-3	75-95	0-20	3-10	1.40-1.50	42.34-141.14	0.06-0.08	0.0-2.9	0.5-1.0	.17	.17	2	2	134
	3-60	75-95	0-20	7-15	1.40-1.50	42.34-141.14	0.05-0.07	0.0-2.9	0.0-0.8	.20	.20			
Florita-----	0-2	55-80	5-30	15-20	1.40-1.50	14.11-42.34	0.11-0.13	0.0-2.9	0.5-1.0	.24	.24	5	3	86
	2-6	55-80	5-30	10-15	1.40-1.50	14.11-42.34	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	6-24	55-80	10-30	5-10	1.40-1.50	14.11-42.34	0.10-0.12	0.0-2.9	0.0-0.5	.20	.20			
	24-60	55-80	5-30	10-15	1.40-1.50	14.11-42.34	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
10:														
Sparank-----	0-2	15-35	50-75	20-27	1.10-1.20	4.23-14.11	0.10-0.12	0.0-2.9	1.0-2.0	.43	.43	5	4L	86
	2-60	10-35	20-60	35-50	1.35-1.45	0.01-0.42	0.10-0.12	6.0-8.9	0.0-0.5	.37	.37			
San Mateo-----	0-2	15-35	50-75	15-25	1.35-1.50	4.23-14.11	0.19-0.21	0.0-2.9	0.5-0.9	.43	.43	5	4L	86
	2-60	5-70	5-80	18-35	1.35-1.45	1.41-4.23	0.14-0.16	3.0-5.9	0.0-0.8	.37	.37			
11:														
Fruitland-----	0-2	55-75	10-35	5-10	1.45-1.55	14.11-42.34	0.11-0.13	0.0-2.9	0.6-0.8	.28	.28	5	3	86
	2-60	55-75	10-35	5-18	1.45-1.55	14.11-42.34	0.11-0.13	0.0-2.9	0.0-0.5	.28	.28			
12:														
Pinavetes-----	0-4	75-90	0-20	3-10	1.40-1.50	42.34-141.14	0.06-0.08	0.0-2.9	0.5-1.0	.17	.17	2	2	134
	4-60	75-100	0-20	7-15	1.40-1.50	42.34-141.14	0.05-0.07	0.0-2.9	0.0-0.8	.20	.20			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
18: Abiquiu-----	0-4	10-40	50-75	15-25	1.20-1.30	4.23-14.11	0.19-0.21	0.0-2.9	0.0-1.0	.43	.43	2	4L	86
	4-8	50-90	10-40	5-15	1.40-1.45	42.34-141.14	0.09-0.11	0.0-2.9	0.0-0.5	.28	.28			
	8-60	85- 100	0-15	2-7	1.40-1.50	42.34-141.14	0.01-0.03	0.0-2.9	0.0-0.5	.02	.10			
Peralta-----	0-18	75-90	0-15	5-10	1.40-1.55	42.34-141.14	0.06-0.08	0.0-2.9	0.5-0.9	.20	.20	5	2	134
	18-65	20- 100	0-45	10-30	1.45-1.55	4.23-14.11	0.10-0.12	0.0-2.9	0.0-0.5	.20	.20			
20: Menefee-----	0-3	30-50	30-50	20-25	1.05-1.15	4.23-14.11	0.16-0.18	0.0-2.9	2.0-3.0	.37	.37	1	4L	86
	3-10	20-45	25-40	30-35	1.25-1.35	0.42-1.41	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	10-60	---	---	---	---	0.00-1.40	---	---	---	---	---			
Vessilla-----	0-2	55-75	5-35	10-20	1.45-1.55	14.11-42.34	0.11-0.13	0.0-2.9	0.6-0.9	.24	.24	1	3	86
	2-10	55-75	5-35	8-18	1.50-1.60	14.11-42.34	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
	10-60	---	---	---	---	1.40-14.00	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	---	0.00-0.00	---	---	---	---	---	--	---	---
21: Werlog-----	0-6	25-45	20-45	28-35	1.40-1.50	1.41-4.23	0.15-0.19	3.0-5.9	0.9-1.0	.32	.32	4	6	48
	6-55	25-70	5-45	18-35	1.40-1.50	1.41-4.23	0.15-0.19	3.0-5.9	0.0-0.5	.32	.32			
	55-60	85- 100	0-15	0-10	1.40-1.50	42.34-141.14	0.03-0.06	0.0-2.9	0.0-0.5	.10	.15			
22: Jocity-----	0-11	55-75	5-35	10-20	1.25-1.30	14.11-42.34	0.11-0.13	0.0-2.9	0.2-0.5	.24	.24	5	3	86
	11-22	55-75	5-35	10-20	1.25-1.30	4.23-14.11	0.13-0.15	0.0-2.9	0.0-0.3	.28	.28			
	22-41	25-70	10-45	25-35	1.45-1.50	1.41-4.23	0.13-0.15	3.0-5.9	0.0-0.3	.32	.32			
	41-60	55-75	5-35	10-20	1.25-1.30	4.23-14.11	0.13-0.15	0.0-2.9	0.0-0.3	.28	.28			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
22: Gilco-----	0-12	75-90	0-20	5-10	1.50-1.60	42.34-141.14	0.06-0.08	0.0-2.9	0.5-0.8	.17	.17	5	2	134
	12-50	50-90	0-50	10-18	1.45-1.55	4.23-14.11	0.15-0.17	0.0-2.9	0.0-0.5	.49	.49			
	50-60	30-90	0-45	10-18	1.45-1.55	4.23-14.11	0.13-0.15	0.0-2.9	0.0-0.5	.37	.37			
23: Gilco-----	0-14	50-75	5-30	20-30	1.35-1.45	1.41-4.23	0.14-0.16	0.0-2.9	0.5-0.8	.32	.32	5	4L	86
	14-60	50-95	0-40	10-18	1.45-1.55	4.23-14.11	0.15-0.17	0.0-2.9	0.0-0.5	.43	.49			
24: Jocity-----	0-14	45-70	5-25	25-30	1.45-1.50	1.41-4.23	0.14-0.16	0.0-2.9	0.2-0.5	.28	.28	5	5	56
	14-33	55-75	5-35	10-20	1.25-1.30	4.23-14.11	0.13-0.15	0.0-2.9	0.0-0.3	.28	.28			
	33-60	25-70	10-45	25-35	1.45-1.50	1.41-4.23	0.13-0.15	3.0-5.9	0.0-0.3	.32	.32			
30: San Mateo-----	0-3	55-75	5-35	10-20	1.40-1.50	14.11-42.34	0.11-0.13	0.0-2.9	0.5-0.9	.24	.24	5	3	86
	3-60	5-70	10-70	18-35	1.35-1.45	1.41-4.23	0.14-0.16	3.0-5.9	0.0-0.8	.37	.37			
31: Gobernador-----	0-2	5-20	45-65	28-35	1.30-1.40	1.41-4.23	0.10-0.11	3.0-5.9	1.0-2.0	.37	.37	5	4L	86
	2-60	5-45	15-55	40-50	1.35-1.45	0.42-1.41	0.07-0.08	6.0-8.9	0.0-0.5	.24	.24			
Orlie-----	0-3	30-50	30-50	20-27	1.10-1.20	4.23-14.11	0.16-0.18	0.0-2.9	2.0-3.0	.37	.43	5	6	48
	3-35	5-45	25-65	28-35	1.40-1.50	1.41-4.23	0.19-0.21	3.0-5.9	0.7-0.9	.37	.37			
	35-60	5-65	10-65	28-35	1.40-1.50	1.41-4.23	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
34: Alcalde-----	0-3	10-45	10-40	40-50	1.35-1.50	0.01-0.42	0.07-0.09	6.0-8.9	0.7-1.0	.20	.20	5	4	86
	3-60	10-40	10-40	40-59	1.35-1.50	0.01-0.42	0.07-0.09	6.0-8.9	0.0-0.5	.20	.20			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
39: Fruitland-----	0-7	55-75	10-40	5-10	1.45-1.55	14.11-42.34	0.11-0.13	0.0-2.9	0.6-0.8	.28	.28	5	3	86
	7-41	55-75	5-35	5-18	1.45-1.55	14.11-42.34	0.11-0.13	0.0-2.9	0.0-0.5	.28	.28			
	41-60	55-75	5-35	10-15	1.45-1.55	14.11-42.34	0.08-0.10	0.0-2.9	0.0-0.5	.15	.32			
40: Pinitos-----	0-4	55-75	5-40	15-20	1.45-1.55	14.11-42.34	0.13-0.15	0.0-2.9	0.5-0.9	.28	.28	5	3	86
	4-28	25-75	5-40	20-35	1.40-1.50	4.23-14.11	0.17-0.19	3.0-5.9	0.0-0.5	.32	.32			
	28-60	50-75	5-35	15-25	1.40-1.50	14.11-42.34	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
Menefee-----	0-2	25-45	30-50	30-35	1.25-1.35	1.41-4.23	0.19-0.21	3.0-5.9	2.0-3.0	.32	.32	1	4L	86
	2-10	25-45	20-45	30-35	1.25-1.35	0.42-1.41	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	10-60	---	---	---	---	0.00-1.40	---	---	---	---	---			
Vessilla-----	0-2	55-75	5-40	10-20	1.45-1.55	14.11-42.34	0.14-0.16	0.0-2.9	0.6-0.9	.28	.32	1	3	86
	2-10	55-75	5-40	8-18	1.50-1.60	14.11-42.34	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
	10-60	---	---	---	---	1.40-14.00	---	---	---	---	---			
42: Walrees-----	0-4	25-45	20-45	28-35	1.40-1.50	1.41-4.23	0.19-0.21	3.0-5.9	1.0-2.0	.37	.37	4	4L	86
	4-23	10-35	50-70	18-35	1.40-1.50	1.41-4.23	0.13-0.19	0.0-2.9	0.5-1.0	.49	.49			
	23-60	85- 100	0-20	0-15	1.40-1.50	42.34-141.14	0.04-0.06	0.0-2.9	0.0-0.8	.10	.10			
Abiquiu-----	0-3	55-75	5-40	15-20	1.40-1.50	14.11-42.34	0.13-0.15	0.0-2.9	0.0-1.0	.28	.28	3	3	86
	3-17	55- 100	0-35	5-15	1.40-1.45	42.34-141.14	0.09-0.11	0.0-2.9	0.0-0.5	.28	.28			
	17-60	85- 100	0-10	2-7	1.40-1.50	42.34-141.14	0.01-0.03	0.0-2.9	0.0-0.5	.02	.10			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
50: Stout-----	0-2	---	---	0-15	0.20-1.00	141.00- 423.00	0.15-0.45	0.0-0.0	60-70	---	---	1	3	86
	2-5	35-80	5-45	10-20	1.35-1.50	14.11-42.34	0.12-0.17	0.0-2.9	0.0-0.5	.24	.28			
	5-14	55-75	5-40	10-20	1.35-1.50	14.11-42.34	0.12-0.17	0.0-2.9	0.0-0.5	.24	.24			
	14-60	---	---	---	---	1.40-14.00	---	---	---	---	---			
Kunz-----	0-3	55-75	5-40	10-20	1.10-1.15	14.11-42.34	0.11-0.13	0.0-2.9	1.0-2.0	.24	.24	5	3	86
	3-60	50-75	5-25	20-30	1.30-1.40	1.41-4.23	0.15-0.17	3.0-5.9	0.5-1.0	.32	.32			
54: Capillo-----	0-4	5-40	50-75	15-25	1.15-1.25	4.23-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	4-11	5-50	35-80	15-30	1.20-1.30	4.23-14.11	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37			
	11-16	0-45	30-65	35-45	1.35-1.40	0.42-1.41	0.19-0.21	6.0-8.9	0.0-0.5	.37	.37			
	16-60	10-40	20-55	35-45	1.40-1.50	0.42-1.41	0.16-0.18	6.0-8.9	0.0-0.5	.28	.28			
60: Sparham-----	0-4	20-45	20-45	35-39	1.30-1.45	1.41-4.23	0.19-0.21	3.0-5.9	0.7-0.9	.32	.32	5	4L	86
	4-41	10-45	10-40	40-50	1.35-1.50	0.01-0.42	0.14-0.16	6.0-8.9	0.0-0.5	.20	.20			
	41-54	45-60	0-10	40-50	1.30-1.40	0.42-1.41	0.15-0.17	6.0-8.9	0.0-0.5	.32	.32			
	54-60	55-75	5-40	10-20	1.50-1.60	14.11-42.34	0.11-0.13	0.0-2.9	0.1-0.5	.24	.24			
61: Colomex-----	0-6	10-40	50-75	10-20	1.10-1.20	4.23-14.11	0.14-0.16	0.0-2.9	1.0-2.0	.24	.43	2	6	48
	6-12	50-75	5-25	20-30	1.25-1.35	4.23-14.11	0.10-0.12	0.0-2.9	0.5-0.9	.15	.28			
	12-34	50-75	5-25	20-35	1.35-1.45	4.23-14.11	0.07-0.08	3.0-5.9	0.0-0.5	.05	.32			
	34-60	55-90	0-30	5-15	1.35-1.45	42.34-141.14	0.03-0.06	0.0-2.9	0.0-0.5	.05	.20			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
64: Dula-----	0-11	30-50	30-50	18-25	1.08-1.12	4.23-14.11	0.16-0.18	0.0-2.9	2.0-3.0	.37	.37	4	6	48
	11-28	30-50	30-50	18-25	1.08-1.12	4.23-14.11	0.16-0.18	0.0-2.9	1.0-3.0	.37	.37			
	28-60	85- 100	0-15	1-5	1.65-1.80	42.34-141.14	0.01-0.02	0.0-2.9	0.5-1.0	.02	.15			
65: Doslomas-----	0-7	30-50	30-50	15-25	1.25-1.35	4.23-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.37	.37	4	5	56
	7-28	20-45	10-40	30-45	1.45-1.55	0.42-4.23	0.15-0.20	3.0-5.9	0.0-0.5	.20	.20			
	28-60	85- 100	0-15	5-10	1.35-1.45	42.34-141.14	0.01-0.03	0.0-2.9	0.0-0.5	.02	.10			
66: Encicado-----	0-17	5-20	40-55	27-35	1.00-1.10	1.41-4.23	0.19-0.21	3.0-5.9	3.0-4.0	.37	.37	4	7	38
	17-35	0-40	10-65	35-50	1.00-1.15	1.41-4.23	0.19-0.21	3.0-5.9	1.0-2.0	.37	.37			
	35-60	20-70	10-50	30-40	1.10-1.20	1.41-4.23	0.04-0.07	3.0-5.9	0.0-0.9	.05	.32			
69: Lindrith-----	0-11	5-20	40-65	28-34	1.35-1.45	1.41-4.23	0.17-0.21	3.0-5.9	0.5-1.0	.37	.37	5	4L	86
	11-67	55-85	5-40	8-18	1.40-1.50	14.11-42.34	0.07-0.12	0.0-2.9	0.0-0.5	.28	.32			
Royosa-----	0-2	75-90	0-15	10-20	1.35-1.45	14.00-42.00	0.06-0.08	0.0-2.9	1.0-2.0	.24	.24	2	3	86
	2-60	70- 100	0-25	0-10	1.40-1.50	42.34-141.14	0.05-0.08	0.0-2.9	0.0-0.5	.17	.17			
70: Sparham-----	0-2	20-45	20-45	35-40	1.45-1.55	1.41-4.23	0.08-0.10	3.0-5.9	0.8-0.9	.32	.37	5	4	86
	2-35	5-40	20-65	35-55	1.35-1.45	0.01-0.42	0.08-0.10	6.0-8.9	0.0-0.5	.28	.32			
	35-60	10-45	10-40	40-55	1.35-1.45	0.01-0.42	0.08-0.10	6.0-8.9	0.0-0.5	.20	.24			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
80:														
Orlie-----	0-3	30-50	30-50	20-27	1.10-1.20	4.23-14.11	0.16-0.18	0.0-2.9	2.0-3.0	.37	.43	5	6	48
	3-35	5-40	30-65	28-35	1.40-1.50	1.41-4.23	0.19-0.21	3.0-5.9	0.7-0.9	.37	.37			
	35-60	10-70	10-70	28-35	1.40-1.50	1.41-4.23	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
Nalivag-----	0-3	30-50	30-50	15-27	1.35-1.45	4.23-14.11	0.16-0.18	0.0-2.9	0.5-1.0	.37	.37	5	6	48
	3-60	25-50	25-50	20-35	1.45-1.55	1.41-4.23	0.17-0.20	3.0-5.9	0.5-1.0	.32	.32			
102:														
Menefee-----	0-2	25-45	20-45	30-35	1.25-1.35	1.41-4.23	0.19-0.21	3.0-5.9	2.0-3.0	.32	.32	1	4L	86
	2-14	25-45	20-45	30-35	1.25-1.35	0.42-1.41	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	14-60	---	---	---	---	0.00-1.40	---	---	---	---	---			
Nalivag-----	0-4	30-50	30-50	15-27	1.35-1.45	4.23-14.11	0.16-0.18	0.0-2.9	0.5-1.0	.37	.37	5	6	48
	4-60	25-50	20-50	20-35	1.45-1.55	1.41-4.23	0.17-0.20	3.0-5.9	0.5-1.0	.32	.32			
103:														
Orlie-----	0-3	55-75	5-35	15-20	1.15-1.25	1.41-4.23	0.11-0.14	0.0-2.9	2.0-3.0	.28	.32	5	3	86
	3-13	10-45	20-65	28-35	1.40-1.50	1.41-4.23	0.19-0.21	3.0-5.9	0.7-0.9	.37	.37			
	13-60	10-75	5-65	28-35	1.40-1.50	1.41-4.23	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			
106:														
Amal-----	0-4	0-40	55-80	18-27	1.25-1.35	4.23-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.43	.43	5	5	56
	4-43	5-45	25-65	28-35	1.35-1.45	1.41-4.23	0.19-0.21	3.0-5.9	0.0-0.5	.37	.37			
	43-60	5-45	25-65	28-35	1.35-1.45	1.41-4.23	0.19-0.21	3.0-5.9	0.0-0.5	.37	.37			
107:														
Berryman-----	0-3	5-45	50-75	18-26	1.15-1.25	4.23-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.43	.43	5	4L	86
	3-80	5-20	45-65	18-35	1.45-1.55	0.42-1.41	0.18-0.20	3.0-5.9	0.0-0.5	.37	.37			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
107: Ruson-----	0-2	5-45	50-75	20-26	1.00-1.15	4.23-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.43	.49	5	4L	86
	2-19	0-40	20-65	35-40	1.40-1.50	1.41-4.23	0.17-0.19	3.0-5.9	0.0-0.5	.37	.37			
	19-65	0-40	20-65	40-50	1.40-1.50	0.42-1.41	0.13-0.15	6.0-8.9	0.0-0.5	.24	.28			
108: Peney-----	0-3	30-50	30-50	18-26	1.15-1.25	4.23-14.11	0.11-0.13	0.0-2.9	1.0-2.0	.20	.37	1	5	56
	3-10	5-45	25-70	18-35	1.20-1.30	1.41-4.23	0.15-0.17	3.0-5.9	0.0-1.0	.43	.43			
	10-60	---	---	---	---	0.00-0.42	---	---	---	---	---			
Ransect-----	0-3	5-20	45-65	28-35	1.25-1.40	1.41-4.23	0.19-0.20	3.0-5.9	1.0-2.0	.37	.37	2	4L	86
	3-38	25-45	20-50	28-35	1.30-1.45	1.41-4.23	0.19-0.20	3.0-5.9	0.0-0.8	.37	.37			
	38-60	---	---	---	---	0.00-0.42	---	---	---	---	---			
109: Calendar-----	0-2	30-50	30-50	20-26	1.15-1.25	4.23-14.11	0.11-0.13	0.0-2.9	1.0-2.0	.20	.43	3	5	56
	2-17	5-40	20-55	40-45	1.40-1.50	0.42-1.41	0.13-0.15	6.0-8.9	0.0-0.5	.20	.24			
	17-35	5-40	20-55	40-45	1.40-1.50	0.42-1.41	0.13-0.15	6.0-8.9	0.0-0.5	.20	.24			
	35-60	---	---	---	---	0.00-0.42	---	---	---	---	---			
110: Vessilla-----	0-1	55-80	5-35	10-20	1.45-1.55	14.11-42.34	0.11-0.13	0.0-2.9	0.6-0.9	.24	.24	1	3	86
	1-15	55-75	5-35	8-18	1.50-1.60	14.11-42.34	0.13-0.15	0.0-2.9	0.0-0.5	.28	.28			
	15-60	---	---	---	---	1.40-14.00	---	---	---	---	---			
Menefee-----	0-3	25-45	25-45	30-35	1.25-1.35	1.41-4.23	0.19-0.21	3.0-5.9	2.0-3.0	.32	.32	1	4L	86
	3-10	25-45	25-45	30-35	1.25-1.35	0.42-1.41	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	10-60	---	---	---	---	0.00-1.40	---	---	---	---	---			
Orlie-----	0-4	5-40	50-75	18-27	1.05-1.15	4.23-14.11	0.19-0.21	0.0-2.9	2.0-3.0	.43	.43	5	6	48
	4-14	5-45	25-65	28-35	1.40-1.50	1.41-4.23	0.19-0.21	3.0-5.9	0.7-0.9	.37	.37			
	14-60	5-75	5-65	28-35	1.40-1.50	1.41-4.23	0.16-0.20	3.0-5.9	0.0-0.5	.37	.37			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
113: Teromote-----	0-2	30-50	30-50	12-18	1.20-1.30	4.23-14.11	0.16-0.18	0.0-2.9	0.5-0.9	.37	.37	5	4L	86
	2-12	25-75	5-45	20-35	1.40-1.50	1.41-4.23	0.16-0.21	3.0-5.9	0.0-0.8	.37	.37			
	12-65	10-50	20-65	20-35	1.40-1.50	1.41-4.23	0.18-0.21	3.0-5.9	0.0-0.5	.37	.37			
Ruson-----	0-3	25-45	20-45	28-35	1.20-1.30	1.41-4.23	0.19-0.21	3.0-5.9	1.0-2.0	.32	.37	5	4L	86
	3-65	5-45	15-55	40-50	1.40-1.50	0.42-1.41	0.13-0.15	6.0-8.9	0.0-0.5	.24	.28			
115: Menefee-----	0-2	30-50	30-50	20-30	1.25-1.35	1.41-4.23	0.16-0.20	0.0-2.9	2.0-3.0	.20	.37	1	4L	86
	2-11	20-45	20-45	30-35	1.25-1.35	0.42-1.41	0.19-0.21	3.0-5.9	0.0-1.0	.32	.32			
	11-60	---	---	---	---	0.00-1.40	---	---	---	---	---			
117: Chamita-----	0-7	30-50	30-50	20-25	1.15-1.30	4.23-14.11	0.16-0.18	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	7-36	30-50	30-50	18-27	1.15-1.30	1.41-14.11	0.16-0.21	3.0-5.9	1.0-3.0	.37	.37			
	36-55	25-50	20-50	18-35	1.25-1.40	1.41-14.11	0.16-0.21	3.0-5.9	1.0-2.0	.37	.37			
	55-60	55-85	5-35	5-10	1.35-1.50	14.11-42.34	0.07-0.10	0.0-2.9	0.5-1.0	.15	.17			
118: Hesperus-----	0-4	30-50	30-50	10-20	1.30-1.35	4.23-14.11	0.16-0.19	0.0-2.9	2.0-5.0	.28	.28	5	5	56
	4-60	5-50	20-65	20-35	1.30-1.40	1.41-14.11	0.16-0.19	0.0-2.9	1.0-3.0	.32	.32			
Pastorius-----	0-12	5-40	50-75	15-25	1.05-1.10	4.23-14.11	0.19-0.21	0.0-2.9	2.0-4.0	.43	.43	3	6	48
	12-20	30-50	30-50	18-25	1.25-1.35	4.23-14.11	0.12-0.14	0.0-2.9	1.0-3.0	.20	.37			
	20-60	30-75	5-50	20-30	1.40-1.50	4.23-14.11	0.07-0.08	0.0-2.9	0.0-0.8	.10	.28			
Chamita-----	0-10	25-45	25-45	27-35	1.20-1.35	1.41-4.23	0.19-0.21	3.0-5.9	2.0-3.0	.32	.32	5	6	48
	10-36	30-50	30-50	18-27	1.15-1.30	1.41-14.11	0.16-0.21	3.0-5.9	1.0-3.0	.37	.37			
	36-60	25-45	25-50	18-35	1.25-1.40	1.41-14.11	0.16-0.21	3.0-5.9	1.0-2.0	.37	.37			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
119: Roques-----	0-2 2-60	20-45 15-45	25-45 10-40	35-40 40-55	1.35-1.45 1.20-1.35	1.41-4.23 0.01-0.42	0.19-0.21 0.14-0.16	3.0-5.9 6.0-8.9	1.0-2.0 0.0-0.5	.32 .20	.32 .20	5	4	86
Nusmag-----	0-3 3-60	20-45 10-40	25-45 10-40	32-40 40-55	1.15-1.30 1.20-1.30	1.41-4.23 0.01-0.42	0.19-0.21 0.14-0.16	3.0-5.9 6.0-8.9	2.0-3.0 0.5-1.0	.32 .20	.32 .20	5	4	86
125: Hogg-----	0-3 3-60	30-50 20-45	30-50 5-40	18-27 35-50	1.10-1.20 1.40-1.55	4.23-14.11 0.42-1.41	0.16-0.18 0.14-0.18	0.0-2.9 6.0-8.9	1.0-2.0 0.0-0.8	.37 .32	.37 .37	5	6	48
Mara-----	0-2 2-18 18-60	30-50 10-40 20-45	30-50 20-60 20-45	17-27 27-35 27-35	1.35-1.45 1.35-1.45 1.45-1.55	4.23-14.11 1.41-4.23 1.41-4.23	0.16-0.18 0.19-0.21 0.19-0.21	0.0-2.9 3.0-5.9 3.0-5.9	0.5-1.0 0.5-0.9 0.0-0.5	.37 .37 .32	.37 .37 .32	5	4L	86
127: Rombo-----	0-4 4-21 21-37 37-60	15-45 15-45 15-45 ---	15-40 15-40 15-40 ---	40-50 40-50 40-50 ---	1.40-1.50 1.40-1.50 1.40-1.50 ---	0.42-1.41 0.42-1.41 0.42-1.41 0.00-1.40	0.14-0.16 0.14-0.16 0.14-0.16 ---	6.0-8.9 6.0-8.9 6.0-8.9 ---	0.5-1.0 0.0-0.5 0.0-0.5 ---	.20 .20 .10 ---	.20 .24 .15 ---	3	4	86
Wiggler-----	0-3 3-10 10-60	20-45 20-50 ---	20-45 20-50 ---	28-32 18-32 ---	1.25-1.35 1.25-1.35 ---	1.41-4.23 4.23-14.11 0.00-1.40	0.12-0.14 0.17-0.18 ---	3.0-5.9 3.0-5.9 ---	0.5-2.0 0.0-0.6 ---	.20 .37 ---	.28 .37 ---	2	4L	86
129: Nusmag-----	0-2 2-60	20-45 10-50	25-45 10-40	32-40 40-55	1.15-1.30 1.20-1.30	1.41-4.23 0.01-0.42	0.19-0.21 0.14-0.16	3.0-5.9 6.0-8.9	2.0-3.0 0.5-1.0	.32 .20	.32 .20	5	4	86
Tottles-----	0-6 6-21 21-60	20-45 10-45 10-45	25-40 10-40 10-40	30-35 40-45 40-55	1.15-1.25 1.40-1.50 1.35-1.50	1.41-4.23 0.42-1.41 0.42-1.41	0.19-0.21 0.14-0.16 0.14-0.16	3.0-5.9 3.0-5.9 6.0-8.9	2.0-3.0 1.0-2.0 0.7-0.9	.32 .20 .20	.32 .20 .20	5	4L	86

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
130: Topetaul-----	0-6	10-40	50-75	18-27	1.10-1.20	4.23-14.11	0.14-0.16	0.0-2.9	1.0-2.0	.24	.43	3	7	38
	6-13	10-40	50-75	20-27	1.25-1.35	4.23-14.11	0.09-0.11	0.0-2.9	0.7-0.9	.15	.43			
	13-28	10-45	15-40	35-50	1.40-1.50	0.42-1.41	0.06-0.08	6.0-8.9	0.0-0.5	.05	.32			
	28-60	10-45	15-40	35-50	1.35-1.50	0.42-1.41	0.04-0.06	6.0-8.9	0.0-0.5	.02	.24			
Hogg-----	0-7	30-50	30-50	18-27	1.10-1.20	4.23-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.37	.37	5	6	48
	7-25	10-45	15-45	35-50	1.40-1.55	0.42-1.41	0.14-0.18	6.0-8.9	0.0-0.8	.32	.37			
	25-60	15-45	20-45	35-50	1.40-1.60	0.42-1.41	0.14-0.18	6.0-8.9	0.0-0.5	.37	.55			
132: Stout-----	0-3	30-50	30-50	15-25	1.35-1.45	4.23-14.11	0.12-0.14	0.0-2.9	0.5-0.9	.20	.37	1	6	48
	3-14	30-70	10-45	15-25	1.35-1.50	14.11-42.34	0.12-0.17	0.0-2.9	0.0-0.5	.24	.28			
	14-18	---	---	---	---	1.40-14.00	---	---	---	---	---			
Carjo-----	0-5	30-50	30-50	18-27	1.10-1.20	4.23-14.11	0.07-0.09	0.0-2.9	1.0-2.0	.10	.43	3	8	0
	5-10	20-45	30-40	30-40	1.40-1.50	1.41-4.23	0.14-0.16	3.0-5.9	0.0-1.0	.15	.24			
	10-38	15-45	15-45	35-50	1.40-1.55	0.42-1.41	0.14-0.21	6.0-8.9	0.0-1.0	.32	.32			
	38-60	---	---	---	---	1.40-14.00	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	---	0.00-0.00	---	---	---	---	---	--	---	---
133: Carrick-----	0-3	10-40	50-75	20-27	1.20-1.30	4.23-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.43	.43	5	6	48
	3-9	5-20	45-65	28-34	1.30-1.50	1.41-4.23	0.19-0.21	3.0-5.9	0.0-0.9	.37	.37			
	9-60	0-20	40-70	35-50	1.40-1.50	0.42-1.41	0.16-0.20	6.0-8.9	0.0-0.5	.32	.32			
136: Elpedro-----	0-3	5-40	50-75	15-22	1.15-1.25	4.23-14.11	0.19-0.21	0.0-2.9	0.5-0.9	.43	.43	5	5	56
	3-25	0-20	45-70	21-35	1.35-1.45	1.41-4.23	0.17-0.19	3.0-5.9	0.0-0.5	.37	.37			
	25-60	0-45	30-80	20-35	1.40-1.50	4.23-14.11	0.17-0.19	0.0-2.9	0.0-0.5	.43	.43			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
137:														
Yata-----	0-10	30-50	30-50	20-25	1.05-1.15	4.23-14.11	0.16-0.18	0.0-2.9	2.0-3.0	.37	.37	5	6	48
	10-21	0-20	45-65	35-40	1.25-1.40	1.41-4.23	0.14-0.16	3.0-5.9	1.0-2.0	.20	.37			
	21-60	0-15	40-55	40-50	1.25-1.40	0.42-1.41	0.08-0.10	6.0-8.9	0.7-0.9	.10	.32			
Eody-----	0-4	30-50	30-50	20-27	1.25-1.35	4.23-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.37	.37	5	6	48
	4-60	0-40	20-65	35-50	1.40-1.55	0.42-1.41	0.14-0.21	6.0-8.9	0.0-0.9	.24	.24			
140:														
Espiritu-----	0-5	30-50	30-50	18-27	1.10-1.20	4.23-14.11	0.08-0.10	0.0-2.9	1.0-2.0	.10	.49	3	8	0
	5-19	20-75	10-45	25-35	1.40-1.50	4.23-14.11	0.08-0.11	3.0-5.9	0.5-1.0	.10	.32			
	19-40	45-70	5-25	20-25	1.40-1.50	4.23-14.11	0.08-0.10	0.0-2.9	0.0-0.5	.10	.32			
	40-60	55-80	5-30	12-20	1.40-1.50	14.11-42.34	0.06-0.08	0.0-2.9	0.0-0.5	.10	.24			
Wauquie-----	0-3	30-50	30-50	10-20	1.15-1.25	4.23-14.11	0.09-0.10	0.0-2.9	0.6-0.9	.10	.37	2	7	38
	3-13	50-70	5-25	20-30	1.35-1.45	4.23-14.11	0.06-0.07	0.0-2.9	0.0-0.5	.10	.37			
	13-19	50-75	5-30	20-30	1.35-1.45	4.23-14.11	0.04-0.05	0.0-2.9	0.0-0.5	.05	.32			
	19-60	30-75	10-50	10-15	1.35-1.45	14.11-42.34	0.05-0.08	0.0-2.9	0.0-0.5	.10	.37			
141:														
Capillo-----	0-4	30-50	30-50	15-25	1.15-1.25	4.23-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.37	.37	5	6	48
	4-11	10-50	30-75	15-25	1.20-1.30	4.23-14.11	0.17-0.19	0.0-2.9	0.5-1.0	.37	.37			
	11-16	10-45	25-65	35-45	1.35-1.40	0.42-1.41	0.19-0.21	6.0-8.9	0.0-0.5	.37	.37			
	16-60	10-40	20-55	35-45	1.40-1.50	0.42-1.41	0.16-0.18	6.0-8.9	0.0-0.5	.28	.28			
Carjo-----	0-4	30-50	30-50	18-27	1.10-1.20	4.23-14.11	0.12-0.14	0.0-2.9	1.0-2.0	.20	.37	3	7	38
	4-31	15-40	15-40	35-50	1.40-1.55	0.42-1.41	0.14-0.21	6.0-8.9	0.0-1.0	.32	.32			
	31-60	---	---	---	---	1.40-14.00	---	---	---	---	---			
Vamer-----	0-2	30-50	30-50	15-25	1.20-1.25	4.23-14.11	0.12-0.14	0.0-2.9	1.0-2.0	.20	.32	2	7	38
	2-19	15-40	15-60	35-50	1.55-1.65	0.42-1.41	0.13-0.19	3.0-5.9	0.7-0.9	.37	.37			
	19-60	---	---	---	---	1.40-14.00	---	---	---	---	---			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
142: Pinavetes-----	0-2	75-90	0-15	3-10	1.40-1.50	42.34-141.14	0.06-0.08	0.0-2.9	0.5-1.0	.17	.17	2	2	134
	2-60	75- 100	0-20	7-15	1.40-1.50	42.34-141.14	0.05-0.07	0.0-2.9	0.0-0.8	.20	.20			
145: Dermala-----	0-3	30-50	30-50	10-18	1.30-1.40	14.11-42.34	0.08-0.09	0.0-2.9	0.5-1.0	.10	.32	5	7	38
	3-12	25-70	10-45	28-35	1.30-1.45	1.41-4.23	0.15-0.20	3.0-5.9	0.0-0.5	.32	.37			
	12-32	25-50	20-50	20-30	1.40-1.50	4.23-14.11	0.13-0.16	0.0-2.9	0.0-0.5	.15	.28			
	32-60	25-70	10-45	28-35	1.30-1.50	1.41-4.23	0.15-0.20	3.0-5.9	0.0-0.5	.32	.37			
Rosced-----	0-5	55-80	5-35	10-15	1.40-1.50	14.11-42.34	0.04-0.06	0.0-2.9	1.0-2.0	.10	.24	3	6	48
	5-16	55-85	5-40	10-15	1.40-1.50	14.11-42.34	0.08-0.10	0.0-2.9	0.0-0.5	.15	.32			
	16-33	55-85	5-40	10-15	1.40-1.50	14.11-42.34	0.04-0.06	0.0-2.9	0.0-0.5	.10	.37			
	33-60	75- 100	0-20	3-8	1.20-1.30	42.34-141.14	0.03-0.05	0.0-2.9	0.0-0.5	.02	.10			
146: Parida-----	0-3	55-85	5-40	10-18	1.40-1.50	14.11-42.34	0.04-0.07	0.0-2.9	0.5-0.9	.10	.24	5	6	48
	3-28	55-85	5-40	10-18	1.40-1.50	14.11-42.34	0.08-0.10	0.0-2.9	0.0-0.5	.15	.28			
	28-65	55-85	5-40	7-18	1.40-1.50	14.11-42.34	0.07-0.10	0.0-2.9	0.0-0.5	.15	.28			
Palacid-----	0-4	55-85	5-40	10-20	1.40-1.50	14.11-42.34	0.05-0.06	0.0-2.9	0.5-0.9	.10	.24	5	6	48
	4-14	30-45	20-55	18-35	1.35-1.45	4.23-14.11	0.15-0.17	3.0-5.9	0.5-0.8	.37	.37			
	14-45	20-45	20-45	27-35	1.35-1.45	1.41-4.23	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	45-68	20-50	30-50	18-35	1.35-1.45	1.41-4.23	0.14-0.16	3.0-5.9	0.0-0.5	.15	.28			
147: Dermala-----	0-4	30-50	30-50	10-18	1.30-1.40	14.11-42.34	0.08-0.09	0.0-2.9	0.5-1.0	.10	.32	5	7	38
	4-60	20-50	25-50	20-30	1.40-1.50	4.23-14.11	0.13-0.16	0.0-2.9	0.0-0.5	.15	.28			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
147: Chimayo-----	0-3	55-85	5-40	10-18	1.40-1.50	14.11-42.34	0.05-0.07	0.0-2.9	0.5-0.9	.10	.24	1	6	48
	3-13	55-85	5-40	10-18	1.40-1.50	14.11-42.34	0.05-0.07	0.0-2.9	0.0-0.5	.10	.32			
	13-60	---	---	---	---	1.40-14.00	---	---	---	---	---			
148: Chita-----	0-3	30-50	30-50	10-19	1.35-1.45	14.11-42.34	0.16-0.18	0.0-2.9	0.5-1.0	.37	.37	5	5	56
	3-10	30-50	30-50	10-19	1.45-1.55	14.11-42.34	0.16-0.18	0.0-2.9	0.0-0.5	.37	.37			
	10-38	0-40	25-70	28-35	1.45-1.55	1.41-4.23	0.19-0.21	3.0-5.9	0.0-0.5	.37	.37			
	38-60	45-75	5-25	20-30	1.40-1.50	4.23-14.11	0.10-0.12	0.0-2.9	0.0-0.5	.15	.28			
149: Yarts-----	0-3	55-85	5-35	12-18	1.35-1.45	14.11-42.34	0.10-0.12	0.0-2.9	0.5-1.0	.17	.17	5	3	86
	3-60	55-85	5-35	10-18	1.35-1.40	14.11-42.34	0.10-0.14	0.0-2.9	0.0-0.5	.20	.20			
151: Razito-----	0-4	75-95	0-20	3-10	1.45-1.55	42.34-141.14	0.06-0.08	0.0-2.9	0.5-1.0	.17	.17	5	2	134
	4-60	75-90	0-25	3-10	1.45-1.55	42.34-141.14	0.06-0.08	0.0-2.9	0.0-0.5	.17	.17			
Fruitland-----	0-3	55-85	5-35	5-10	1.45-1.55	14.11-42.34	0.11-0.13	0.0-2.9	0.6-0.8	.28	.28	5	3	86
	3-50	55-85	5-40	5-18	1.45-1.55	14.11-42.34	0.11-0.13	0.0-2.9	0.0-0.5	.28	.28			
	50-60	75-90	0-20	5-10	1.45-1.55	42.34-141.14	0.07-0.09	0.0-2.9	0.0-0.5	.17	.17			
170: Sedillo-----	0-12	30-50	30-50	18-27	1.25-1.40	4.23-141.14	0.12-0.14	0.0-2.9	1.0-2.0	.20	.43	3	7	38
	12-36	50-80	5-30	20-35	1.30-1.45	1.41-4.23	0.07-0.11	3.0-5.9	0.0-0.5	.10	.32			
	36-60	55-85	5-40	8-17	1.40-1.50	14.11-42.34	0.03-0.06	0.0-2.9	0.0-0.5	.10	.24			
173: Oelop-----	0-5	55-85	5-35	10-17	1.40-1.50	14.11-42.34	0.13-0.15	0.0-2.9	0.7-1.0	.28	.28	5	3	86
	5-45	10-50	30-65	18-35	1.45-1.55	1.41-4.23	0.17-0.20	3.0-5.9	0.0-0.5	.37	.37			
	45-60	55-85	5-35	10-17	1.40-1.50	14.11-42.34	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
180: Oelop-----	0-1	30-50	30-50	18-27	1.20-1.30	4.23-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.37	.37	5	6	48
	1-60	10-50	30-65	18-35	1.45-1.55	1.41-4.23	0.17-0.20	3.0-5.9	0.0-0.5	.37	.37			
182: Oelop-----	0-3	55-85	5-35	10-17	1.35-1.45	14.11-42.34	0.11-0.13	0.0-2.9	0.5-0.9	.24	.24	5	3	86
	3-11	20-45	20-45	27-35	1.45-1.55	1.41-4.23	0.19-0.21	0.0-2.9	0.0-0.5	.32	.32			
	11-60	30-70	10-50	20-30	1.45-1.55	4.23-14.11	0.15-0.17	0.0-2.9	0.0-0.5	.37	.37			
190: Sedillo-----	0-5	30-50	30-50	18-27	1.25-1.40	4.23-14.11	0.15-0.17	0.0-2.9	1.0-2.0	.37	.37	3	6	48
	5-25	45-75	5-25	20-35	1.30-1.45	1.41-4.23	0.07-0.11	3.0-5.9	0.0-0.5	.10	.32			
	25-60	55-85	5-35	8-17	1.40-1.50	14.11-42.34	0.03-0.06	0.0-2.9	0.0-0.5	.10	.24			
200: Katlon-----	0-4	---	---	0-15	0.20-1.00	141.00- 423.00	0.15-0.45	0.0-0.0	60-70	---	---	5	6	48
	4-18	10-40	50-75	15-27	1.05-1.15	4.23-14.11	0.19-0.21	0.0-2.9	2.0-3.0	.43	.43			
	18-31	10-40	50-70	15-27	1.15-1.25	4.23-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.43	.43			
	31-80	0-20	40-70	35-45	1.25-1.35	0.42-1.41	0.15-0.20	3.0-5.9	1.0-2.0	.32	.32			
201: Lobat-----	0-1	---	---	0-15	0.20-1.00	141.00- 423.00	0.15-0.45	0.0-0.0	60-70	---	---	5	7	38
	1-7	30-50	30-50	18-27	1.25-1.40	4.23-14.11	0.12-0.14	0.0-2.9	1.0-2.0	.20	.37			
	7-48	20-45	20-45	27-34	1.45-1.55	1.41-4.23	0.13-0.17	3.0-5.9	0.5-0.7	.15	.28			
	48-60	45-70	5-25	20-35	1.45-1.55	1.41-4.23	0.10-0.12	3.0-5.9	0.0-0.5	.15	.24			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
201: Abreu-----	0-2	---	---	0-15	0.20-1.00	141.00- 423.00	0.15-0.45	0.0-0.0	60-70	---	---	5	7	38
	2-4	30-50	30-50	18-27	1.10-1.20	4.23-14.11	0.12-0.14	0.0-2.9	1.0-2.0	.20	.37			
	4-15	30-50	30-50	18-27	1.10-1.20	4.23-14.11	0.08-0.10	0.0-2.9	0.0-0.5	.10	.32			
	15-58	20-45	20-45	27-35	1.30-1.45	1.41-4.23	0.09-0.11	3.0-5.9	0.0-0.5	.10	.37			
	58-60	---	---	---	---	0.01-0.06	---	---	---	---	---			
203: Nabor-----	0-6	5-20	45-65	27-35	1.15-1.35	1.41-4.23	0.19-0.21	3.0-5.9	2.0-3.0	.37	.37	5	7	38
	6-17	0-20	45-65	35-40	1.15-1.35	1.41-4.23	0.19-0.21	3.0-5.9	1.0-2.0	.37	.37			
	17-37	0-20	30-55	40-50	1.30-1.40	0.42-1.41	0.14-0.17	6.0-8.9	1.0-2.0	.24	.24			
	37-60	0-20	40-65	35-50	1.30-1.40	0.42-1.41	0.15-0.21	6.0-8.9	0.7-0.9	.37	.37			
Elbuck-----	0-3	30-50	30-50	15-25	1.05-1.20	4.23-14.11	0.12-0.14	0.0-2.9	1.0-3.0	.20	.37	5	7	38
	3-14	30-50	30-50	20-25	1.20-1.30	4.23-14.11	0.12-0.14	0.0-2.9	0.7-0.9	.20	.37			
	14-60	20-45	25-50	20-30	1.45-1.55	4.23-14.11	0.14-0.16	0.0-2.9	0.0-0.5	.15	.28			
206: Angostura-----	0-4	30-50	30-50	15-25	1.20-1.30	4.23-14.11	0.12-0.14	0.0-2.9	1.0-2.0	.20	.37	3	8	0
	4-43	20-50	25-50	25-35	1.45-1.55	1.41-4.23	0.09-0.11	0.0-2.9	0.5-0.9	.05	.32			
	43-60	30-75	10-45	20-30	1.40-1.50	4.23-14.11	0.05-0.09	0.0-2.9	0.0-0.5	.05	.37			
Gromes-----	0-3	30-50	30-50	18-27	1.25-1.35	4.23-14.11	0.12-0.14	0.0-2.9	1.0-2.0	.20	.32	3	6	48
	3-60	20-50	25-50	22-34	1.35-1.45	1.41-4.23	0.13-0.15	3.0-5.9	0.5-0.9	.10	.37			
207: Gromes-----	0-11	30-50	30-50	18-27	1.25-1.35	4.23-14.11	0.12-0.14	0.0-2.9	1.0-2.0	.20	.37	3	6	48
	11-60	20-50	20-50	22-34	1.35-1.45	1.41-4.23	0.13-0.15	3.0-5.9	0.5-0.9	.10	.37			
Rock outcrop-----	0-60	---	---	---	---	0.00-0.00	---	---	---	---	---	--	---	---

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
208:														
Ess-----	0-13	30-50	30-50	20-30	1.25-1.35	4.23-14.11	0.13-0.15	0.0-2.9	1.0-2.0	.17	.32	5	8	0
	13-40	25-75	5-40	20-30	1.25-1.35	4.23-14.11	0.07-0.10	3.0-5.9	0.5-2.0	.17	.64			
	40-60	30-80	5-45	10-22	1.30-1.40	4.23-14.11	0.05-0.08	0.0-2.9	0.0-0.8	.17	.64			
Croftshaw-----	0-10	30-50	30-50	15-25	1.10-1.20	4.23-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.37	.37	5	6	48
	10-60	20-45	20-45	27-35	1.45-1.55	1.41-4.23	0.19-0.21	3.0-5.9	0.8-1.0	.32	.32			
209:														
Crubas-----	0-3	---	---	0-15	0.20-1.00	141.00- 423.00	0.15-0.45	0.0-0.0	60-70	---	---	5	6	48
	3-15	20-45	25-45	28-40	1.15-1.35	1.41-4.23	0.19-0.21	0.0-2.9	1.0-2.0	.32	.32			
	15-37	15-45	15-40	40-50	1.40-1.50	0.42-1.41	0.14-0.16	6.0-8.9	0.0-0.9	.20	.20			
	37-60	15-45	15-40	40-50	1.40-1.50	0.42-1.41	0.10-0.14	6.0-8.9	0.0-0.5	.10	.17			
Bywell-----	0-4	10-40	50-80	18-25	1.10-1.20	4.23-14.11	0.19-0.21	0.0-2.9	1.0-2.0	.43	.43	3	6	48
	4-11	30-50	30-50	18-25	1.10-1.20	4.23-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.37	.37			
	11-42	55-85	5-40	10-18	1.30-1.40	14.11-42.34	0.04-0.06	0.0-2.9	0.0-0.5	.10	.24			
	42-60	---	---	---	---	141.14- 423.00	---	---	0.0-0.0	---	---			
Croftshaw-----	0-8	30-50	30-50	15-25	1.10-1.20	4.23-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.37	.37	5	6	48
	8-28	20-45	25-45	27-35	1.45-1.55	1.41-4.23	0.19-0.21	3.0-5.9	0.8-1.0	.32	.32			
	28-60	55-85	5-25	15-20	1.35-1.45	14.11-42.34	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
210:														
Rock outcrop-----	0-60	---	---	---	---	0.00-0.00	---	---	---	---	---	--	---	---

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
210: Bracos-----	0-3	---	---	0-15	0.20-1.00	141.00- 423.00	0.15-0.45	0.0-0.0	60-70	---	---	2	8	0
	3-8	30-50	30-50	18-26	1.10-1.25	4.23-14.11	0.07-0.09	0.0-2.9	1.0-2.0	.10	.37			
	8-21	30-50	30-50	18-26	1.25-1.40	4.23-14.11	0.07-0.09	0.0-2.9	0.0-0.9	.10	.55			
	21-32	55-85	5-35	15-20	1.40-1.50	14.11-42.34	0.03-0.05	0.0-2.9	0.0-0.5	.05	.24			
	32-60	---	---	---	---	0.00-141.00	---	---	---	---	---			
211: Angostura-----	0-8	30-50	30-50	15-25	1.20-1.30	4.23-14.11	0.12-0.14	0.0-2.9	1.0-2.0	.20	.37	3	8	0
	8-60	30-75	10-50	20-30	1.40-1.50	4.23-14.11	0.05-0.09	0.0-2.9	0.0-0.5	.05	.37			
214: Quimera-----	0-3	20-45	25-45	30-40	1.20-1.30	1.41-4.23	0.09-0.11	3.0-5.9	0.5-0.9	.10	.32	1	6	48
	3-15	20-45	25-45	35-40	1.30-1.40	1.41-4.23	0.19-0.21	3.0-5.9	0.0-0.5	.32	.32			
	15-17	15-50	15-40	40-50	1.25-1.35	0.42-1.41	0.14-0.16	6.0-8.9	0.0-0.5	.20	.20			
	17-60	---	---	---	---	1.40-14.00	---	---	---	---	---			
Vamer-----	0-3	20-45	25-45	27-35	1.35-1.45	1.41-4.23	0.11-0.13	3.0-5.9	1.0-2.0	.10	.32	1	8	0
	3-19	10-45	20-60	35-50	1.55-1.65	0.42-1.41	0.13-0.19	3.0-5.9	0.7-0.9	.37	.37			
	19-60	---	---	---	---	1.40-14.00	---	---	---	---	---			
215: Saragote-----	0-1	---	---	0-15	0.20-1.00	141.00- 423.00	0.15-0.45	0.0-0.0	60-70	---	---	3	6	48
	1-9	30-50	30-50	18-25	1.15-1.25	4.23-14.11	0.16-0.18	0.0-2.9	2.0-3.0	.37	.37			
	9-60	20-45	20-45	35-50	1.40-1.55	0.42-1.41	0.10-0.14	6.0-8.9	0.0-1.0	.15	.32			
Ess-----	0-12	30-50	30-50	20-30	1.25-1.35	4.23-14.11	0.13-0.15	0.0-2.9	1.0-2.0	.17	.32	3	8	0
	12-40	20-70	5-45	20-30	1.25-1.35	4.23-14.11	0.07-0.10	3.0-5.9	0.5-2.0	.17	.64			
	40-60	50-85	0-30	10-22	1.30-1.40	4.23-14.11	0.05-0.08	0.0-2.9	0.0-0.8	.17	.64			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
216: Angostura-----	0-12 12-60	55-85 45-70	0-35 0-25	15-20 20-30	1.45-1.55 1.45-1.55	14.11-42.34 4.23-14.11	0.06-0.08 0.05-0.06	0.0-2.9 0.0-2.9	1.0-2.0 0.0-0.8	.10 .10	.24 .32	2	6	48
220: Rock outcrop-----	0-60	---	---	---	---	0.00-0.00	---	---	---	---	---	--	---	---
Vessilla-----	0-2 2-10 10-60	55-85 55-85 ---	5-35 5-35 ---	10-20 8-18 ---	1.45-1.55 1.50-1.60 ---	14.11-42.34 14.11-42.34 1.40-14.00	0.11-0.13 0.13-0.15 ---	0.0-2.9 0.0-2.9 ---	0.6-0.9 0.0-0.5 ---	.24 .28 ---	.24 .28 ---	1	3	86
Menefee-----	0-1 1-10 10-60	20-45 20-45 ---	25-45 25-45 ---	30-35 30-35 ---	1.25-1.35 1.25-1.35 ---	1.41-4.23 0.42-1.41 0.00-1.40	0.19-0.21 0.19-0.21 ---	3.0-5.9 3.0-5.9 ---	2.0-3.0 0.0-1.0 ---	.32 .32 ---	.32 .32 ---	1	4L	86
228: Suposo-----	0-4 4-16 16-31 31-60	20-45 20-45 20-45 20-45	25-45 15-40 15-40 15-40	30-40 40-55 40-55 40-55	1.25-1.35 1.35-1.45 1.35-1.45 1.35-1.45	1.41-4.23 0.42-1.41 0.42-1.41 0.42-1.41	0.19-0.21 0.15-0.17 0.15-0.17 0.15-0.17	3.0-5.9 6.0-8.9 6.0-8.9 6.0-8.9	2.0-3.0 1.0-2.0 1.0-2.0 0.0-1.0	.32 .20 .20 .20	.32 .20 .20 .20	5	4L	86
Brycan-----	0-10 10-60	30-50 20-50	30-50 25-50	15-20 22-30	1.25-1.35 1.25-1.35	4.23-14.11 4.23-14.11	0.16-0.18 0.17-0.19	0.0-2.9 0.0-2.9	2.0-4.0 1.0-2.0	.37 .37	.37 .37	5	5	56
230: Badland-----	0-60	---	---	---	---	0.00-0.42	---	---	---	---	---	1	4	86
240: Riverwash, gravelly--	0-6 6-60	85- 100 55- 100	0-15 0-20	0-1 0-5	1.50-1.70 1.15-1.25	42.34-141.14 42.34-141.14	0.01-0.02 0.04-0.06	0.0-2.9 0.0-2.9	0.0-0.1 0.0-0.5	.02 .10	.10 .10	--	8	0

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
241: Florita-----	0-3	55-85	5-35	10-15	1.40-1.50	14.11-42.34	0.09-0.10	0.0-2.9	0.5-1.0	.15	.28	5	5	56
	3-38	55-85	5-35	10-15	1.40-1.50	14.11-42.34	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
	38-60	55-85	5-35	10-15	1.40-1.50	14.11-42.34	0.11-0.13	0.0-2.9	0.0-0.5	.24	.24			
Rock outcrop-----	0-60	---	---	---	---	0.00-0.00	---	---	---	---	---	--	---	---
242: Tinaja-----	0-4	30-50	30-50	20-30	1.15-1.25	4.23-14.11	0.03-0.05	0.0-2.9	0.5-1.0	.05	.37	3	8	0
	4-43	20-70	5-45	20-30	1.35-1.45	4.23-14.11	0.07-0.10	0.0-2.9	0.0-0.5	.10	.32			
	43-60	55-85	5-35	15-20	1.40-1.50	14.11-42.34	0.11-0.13	0.0-2.9	0.0-0.5	.24	.28			
Rock outcrop-----	0-60	---	---	---	---	0.00-0.00	---	---	---	---	---	--	---	---
243: Penistaja-----	0-3	55-85	5-35	10-20	1.35-1.45	4.23-14.11	0.13-0.15	0.0-2.9	0.8-2.0	.28	.28	5	3	86
	3-18	20-75	5-40	20-30	1.40-1.50	4.23-14.11	0.15-0.18	0.0-2.9	0.0-0.5	.32	.32			
	18-60	45-85	5-35	10-20	1.20-1.30	14.11-42.34	0.12-0.15	0.0-2.9	0.0-0.5	.28	.28			
244: Scholle-----	0-7	30-50	30-50	15-25	1.10-1.20	4.23-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.37	.49	5	5	56
	7-17	45-75	5-30	20-30	1.40-1.50	4.23-14.11	0.14-0.16	0.0-2.9	0.0-0.5	.32	.37			
	17-24	20-45	25-45	28-34	1.35-1.45	1.41-4.23	0.14-0.16	3.0-5.9	0.0-0.5	.15	.24			
	24-60	45-85	5-35	18-34	1.30-1.45	4.23-14.11	0.08-0.10	3.0-5.9	0.0-0.5	.15	.32			
Silver-----	0-2	30-50	30-50	20-27	1.25-1.35	4.23-14.11	0.16-0.18	0.0-2.9	1.0-2.0	.37	.37	5	6	48
	2-34	20-45	25-40	35-50	1.40-1.50	0.42-1.41	0.15-0.20	6.0-8.9	0.0-0.5	.32	.32			
	34-48	45-75	0-25	30-35	1.40-1.50	4.23-14.11	0.14-0.16	3.0-5.9	0.0-0.5	.32	.32			
	48-60	45-75	0-25	30-35	1.40-1.50	4.23-14.11	0.10-0.12	3.0-5.9	0.0-0.5	.15	.24			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
245: Maia-----	0-10	30-50	30-50	15-20	1.30-1.40	4.23-14.11	0.16-0.18	0.0-2.9	1.0-4.0	.37	.37	5	5	56
	10-16	20-70	10-45	25-35	1.40-1.50	1.41-4.23	0.16-0.19	3.0-5.9	0.0-0.9	.32	.32			
	16-25	20-70	10-45	25-35	1.40-1.50	1.41-4.23	0.12-0.14	3.0-5.9	0.5-0.7	.15	.28			
	25-60	30-70	10-50	15-25	1.40-1.50	14.11-42.34	0.11-0.13	0.0-2.9	0.0-0.5	.20	.32			
Manzano-----	0-3	55-85	5-40	15-20	1.25-1.35	14.11-42.34	0.13-0.15	0.0-2.9	1.0-3.0	.28	.28	4	3	86
	3-49	30-50	30-50	20-27	1.20-1.35	4.23-14.11	0.16-0.18	0.0-2.9	0.8-2.0	.37	.37			
	49-60	75-90	0-15	5-10	1.30-1.40	42.34-141.14	0.04-0.06	0.0-2.9	0.0-0.5	.10	.20			
246: Pena-----	0-2	55-85	5-35	10-20	1.30-1.40	14.11-42.34	0.08-0.10	0.0-2.9	1.0-2.0	.15	.28	3	5	56
	2-30	30-85	5-45	15-20	1.30-1.40	14.11-42.34	0.05-0.07	0.0-2.9	1.0-2.0	.10	.24			
	30-60	35-85	5-45	15-20	1.30-1.40	14.11-42.34	0.05-0.07	0.0-2.9	0.0-0.5	.10	.43			
247: Wenota-----	0-8	0-20	45-65	35-40	1.30-1.40	1.41-4.23	0.19-0.21	3.0-5.9	1.0-2.0	.37	.37	5	4L	86
	8-60	20-45	25-45	35-45	1.35-1.45	0.42-1.41	0.15-0.19	3.0-5.9	0.0-0.5	.20	.20			
248: Hagerman-----	0-3	55-85	5-35	10-20	1.45-1.55	14.11-42.34	0.13-0.15	0.0-2.9	0.8-0.9	.28	.28	2	3	86
	3-24	20-85	5-40	18-35	1.40-1.50	4.23-14.11	0.15-0.17	3.0-5.9	0.0-0.5	.32	.32			
	24-60	---	---	---	---	1.40-14.00	---	---	---	---	---			
Silver-----	0-4	55-85	5-35	15-20	1.30-1.40	14.11-42.34	0.13-0.15	0.0-2.9	1.0-2.0	.28	.28	5	3	86
	4-60	20-45	15-40	35-50	1.40-1.50	0.42-1.41	0.15-0.20	6.0-8.9	0.0-0.5	.32	.32			
249: Losmarios-----	0-6	45-75	5-25	20-30	1.35-1.45	4.23-14.11	0.03-0.05	0.0-2.9	0.6-0.9	.05	.32	5	8	0
	6-29	0-20	30-55	45-60	1.40-1.50	0.42-1.41	0.14-0.16	6.0-8.9	0.0-0.5	.24	.24			
	29-60	0-20	30-55	45-60	1.40-1.50	0.42-1.41	0.15-0.17	6.0-8.9	0.0-0.5	.24	.24			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
302: Puye-----	0-3	55-85	5-35	5-20	1.10-1.20	14.11-42.34	0.08-0.10	0.0-2.9	0.5-2.0	.15	.28	2	5	56
	3-15	55-85	5-35	5-20	1.10-1.20	14.11-42.34	0.08-0.10	0.0-2.9	0.0-0.8	.15	.28			
	15-16	---	---	---	---	0.00-1.40	---	---	0.0-0.5	---	---			
	16-60	70- 100	0-25	0-10	1.10-1.20	42.34-141.14	0.02-0.04	0.0-2.9	0.0-0.5	.10	.17			
401: Chiminet-----	0-1	---	---	0-15	0.20-1.00	141.00- 423.00	0.15-0.45	0.0-0.0	60-70	---	---	1	3	86
	1-3	55-85	5-35	5-15	1.30-1.40	14.11-42.34	0.11-0.13	0.0-2.9	1.0-2.0	.24	.24			
	3-10	55-85	5-35	5-15	1.30-1.45	14.11-42.34	0.08-0.10	0.0-2.9	0.0-0.2	.15	.28			
	10-60	---	---	---	---	0.00-14.00	---	---	---	---	---			
Rock outcrop-----	0-60	---	---	---	---	0.00-0.00	---	---	---	---	---	--	---	---
407: Totavi-----	0-3	---	---	0-15	0.20-1.00	141.00- 423.00	0.15-0.45	0.0-0.0	60-70	---	---	5	5	56
	3-6	30-50	30-50	10-20	0.80-0.90	4.23-14.11	0.18-0.22	0.0-2.9	1.0-2.0	.20	.37			
	6-28	55-85	5-35	5-18	0.80-0.90	14.00-42.00	0.13-0.15	0.0-2.9	0.7-0.9	.24	.28			
	28-60	55-85	5-35	0-10	0.80-0.90	141.00- 423.00	0.13-0.15	0.0-2.9	0.0-0.5	.10	.17			
704: Chrishall-----	0-17	30-50	30-50	10-20	1.05-1.15	14.11-42.34	0.10-0.14	0.0-2.9	3.0-5.0	.20	.32	5	6	48
	17-60	55-85	5-35	5-15	1.15-1.30	14.11-42.34	0.08-0.10	0.0-2.9	0.8-2.0	.15	.28			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	In.	Pct.	Pct.	Pct.	g/cc	um/sec	In./in.	Pct.	Pct.					
710: Calaveras-----	0-3	---	---	0-15	0.20-1.00	141.00- 423.00	0.15-0.45	0.0-0.0	60-70	---	---	3	6	48
	3-9	55-85	5-35	10-20	1.20-1.30	14.11-42.34	0.06-0.08	0.0-2.9	1.0-3.0	.10	.24			
	9-60	45-70	5-25	20-30	1.25-1.45	4.23-14.11	0.04-0.08	0.0-2.9	0.0-0.5	.05	.32			
Palon-----	0-1	---	---	0-15	0.20-1.00	141.00- 423.00	0.15-0.45	0.0-0.0	60-70	---	---	3	6	48
	1-16	55-85	5-35	5-15	1.30-1.40	14.11-42.34	0.06-0.07	0.0-2.9	1.0-2.0	.10	.24			
	16-40	70-90	0-25	0-10	1.30-1.40	14.11-42.34	0.03-0.04	0.0-2.9	0.5-0.8	.05	.17			
	40-60	55-85	5-35	10-18	1.30-1.40	14.11-42.34	0.04-0.05	0.0-2.9	0.0-0.5	.05	.24			
711: Laventana-----	0-5	30-50	30-50	15-25	1.15-1.25	4.23-14.11	0.12-0.14	0.0-2.9	1.0-3.0	.20	.37	3	6	48
	5-11	55-85	5-35	10-20	1.35-1.45	14.11-42.34	0.10-0.12	0.0-2.9	0.0-0.9	.15	.28			
	11-23	45-70	5-25	20-30	1.35-1.40	4.23-14.11	0.11-0.13	0.0-2.9	0.5-0.7	.15	.24			
	23-60	45-70	5-25	20-30	1.45-1.55	4.23-14.11	0.06-0.07	0.0-2.9	0.0-0.5	.10	.32			
719: Alanos-----	0-1	---	---	0-15	0.20-1.00	141.00- 423.00	0.15-0.45	0.0-0.0	60-70	---	---	3	7	38
	1-7	30-50	30-50	10-25	1.20-1.40	4.23-14.11	0.08-0.09	0.0-2.9	1.0-3.0	.10	.43			
	7-27	20-45	20-45	35-55	1.35-1.55	0.42-1.41	0.07-0.11	6.0-8.9	0.5-1.0	.10	.32			
	27-39	45-75	5-25	20-30	1.30-1.45	4.23-14.11	0.07-0.08	0.0-2.9	0.0-0.5	.10	.32			
	39-60	55-85	5-35	10-20	1.30-1.40	14.11-42.34	0.04-0.07	0.0-2.9	0.0-0.5	.05	.24			
802: Redondo-----	0-2	---	---	0-15	0.20-1.00	141.00- 423.00	0.15-0.45	0.0-0.0	60-70	---	---	3	6	48
	2-5	45-75	5-25	20-30	1.15-1.25	4.23-14.11	0.11-0.12	0.0-2.9	1.0-3.0	.15	.28			
	5-16	45-75	5-25	20-30	1.30-1.45	4.23-14.11	0.11-0.12	0.0-2.9	0.7-0.9	.15	.28			
	16-60	45-75	5-25	20-30	1.30-1.45	4.23-14.11	0.07-0.08	0.0-2.9	0.0-0.5	.10	.32			

Table 18.--Physical soil properties--Continued

Map symbol and soil name	Depth	Sand	Silt	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
										Kw	Kf	T		
	<u>In.</u>	<u>Pct.</u>	<u>Pct.</u>	<u>Pct.</u>	<u>g/cc</u>	<u>um/sec</u>	<u>In./in.</u>	<u>Pct.</u>	<u>Pct.</u>					
803: Rusbach-----	0-2	---	---	0-15	0.20-1.00	141.00- 423.00	0.15-0.45	0.0-0.0	60-70	---	---	3	4	86
	2-16	55-85	5-35	5-15	1.25-1.35	14.11-42.34	0.07-0.11	0.0-2.9	0.0-1.0	.20	.24			
	16-25	75-90	0-15	5-10	1.30-1.40	42.34-141.14	0.04-0.06	0.0-2.9	0.0-0.5	.15	.17			
	25-70	75-90	0-15	5-10	1.35-1.45	42.34-141.14	0.03-0.06	0.0-2.9	0.0-0.5	.10	.17			
DAM: Dam-----	---	---	---	---	---	---	---	---	---	---	---	--	---	---
W: Water-----	---	---	---	---	---	---	---	---	---	---	---	--	---	---

Table 19.--Chemical properties of the soils

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
9:							
Pinavetes-----	0-3	0.0-2.0	6.6-8.4	0-5	0	0.0-1.0	0
	3-60	4.0-10	6.6-8.4	0-5	0	0.0-1.0	0
Florita-----	0-2	10-15	7.9-8.4	0-2	0	0.0-2.0	0
	2-6	5.0-10	7.9-8.4	0-2	0	0.0-2.0	0
	6-24	5.0-10	7.9-8.4	0-2	0	0.0-2.0	0-5
	24-60	5.0-10	8.5-9.0	0-5	0	0.0-2.0	0-12
10:							
Sparank-----	0-2	15-20	7.9-9.0	1-10	0-1	0.0-4.0	0-5
	2-60	20-30	7.9-9.0	5-15	0-1	4.0-8.0	13-30
San Mateo-----	0-2	10-15	7.4-8.4	5-15	0-1	0.0-2.0	0-5
	2-60	9.5-23	7.4-9.0	5-15	0-1	4.0-8.0	13-30
11:							
Fruitland-----	0-2	5.0-10	7.4-8.4	5-10	0-1	0.0-4.0	0-2
	2-60	5.0-10	7.4-8.4	5-10	0-1	0.0-4.0	0-2
12:							
Pinavetes-----	0-4	0.0-1.0	6.6-8.4	0-5	0	0.0-2.0	0
	4-60	5.0-10	6.6-8.4	0-5	0	0.0-2.0	0
18:							
Abiquiu-----	0-4	10-15	7.9-8.4	5-10	0	0.0-2.0	0
	4-8	5.0-10	7.9-8.4	0-5	0	0.0-2.0	0
	8-60	1.4-5.4	7.9-8.4	5-10	0	0.0-2.0	0

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
18:							
Peralta-----	0-18	10-15	7.9-9.6	5-10	0	2.0-4.0	0-10
	18-65	5.7-19	7.9-9.6	5-10	0	4.0-10.0	0-10
20:							
Menefee-----	0-3	15-20	7.4-8.4	5-10	0	0.0-2.0	0-5
	3-10	15-20	7.4-8.4	5-10	0	0.0-2.0	0-5
	10-60	---	---	---	---	---	---
Vessilla-----	0-2	5.0-10	6.6-8.4	5-10	0	0.0-2.0	0
	2-10	5.0-10	7.4-8.4	5-10	0	0.0-2.0	0
	10-60	---	---	---	---	---	---
Rock Outcrop-----	0-60	---	---	---	---	---	---
21:							
Werlog-----	0-6	15-25	7.4-9.0	1-3	0	2.0-4.0	0-20
	6-55	9.5-22	7.4-9.0	1-3	0	2.0-4.0	0-20
	55-60	0.0-7.4	7.4-9.0	1-3	0	2.0-4.0	0-20
22:							
Jocity-----	0-11	5.0-10	7.9-8.4	5-10	0-5	0.0-4.0	0-5
	11-22	5.0-10	7.9-8.4	5-10	0-5	0.0-4.0	0-5
	22-41	15-20	7.9-8.4	5-10	0-5	0.0-4.0	0-5
	41-60	5.0-10	7.9-8.4	5-10	0-5	0.0-4.0	0-5
Gilco-----	0-12	5.0-10	6.6-8.4	5-10	0	0.0-4.0	0-2
	12-50	5.7-12	6.6-8.4	5-10	0	0.0-4.0	0-2
	50-60	5.7-12	6.6-8.4	5-10	0	0.0-4.0	0-2

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
23: Gilco-----	0-14	10-15	6.6-8.4	5-10	0	0.0-4.0	0-2
	14-60	5.7-12	6.6-8.4	5-10	0	0.0-4.0	0-2
24: Jocity-----	0-14	10-15	7.9-8.4	5-10	0-5	0.0-4.0	1-5
	14-33	5.0-10	7.9-8.4	5-10	0-5	0.0-4.0	1-5
	33-60	15-20	7.9-8.4	5-10	0-5	0.0-4.0	1-5
30: San Mateo-----	0-3	5.0-15	7.4-8.4	5-15	0-1	0.0-2.0	0-5
	3-60	9.5-23	7.4-9.0	5-15	0-1	4.0-8.0	13-30
31: Gobernador-----	0-2	20-30	7.8-9.6	1-5	0	2.0-4.0	13-45
	2-60	30-40	7.8-9.6	1-5	0	8.0-16.0	13-45
Orlie-----	0-3	15-25	6.6-7.3	0	0	0.0-2.0	0
	3-35	20-25	6.6-8.4	0-5	0	0.0-2.0	0
	35-60	20-20	7.4-8.4	5-10	0	0.0-4.0	0
34: Alcalde-----	0-3	20-25	8.5-9.0	5-10	0-1	8.0-16.0	5-10
	3-60	20-30	8.5-9.0	5-10	0-1	8.0-16.0	5-10
39: Fruitland-----	0-7	5.0-10	7.4-8.4	5-10	0	0.0-4.0	0-2
	7-41	5.0-10	7.4-8.4	5-10	0	0.0-4.0	0-2
	41-60	5.0-10	7.4-8.4	5-10	0	0.0-4.0	0-2

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
40:							
Pinitos-----	0-4	10-15	6.6-7.3	0-2	0	0.0-2.0	0
	4-28	15-20	6.6-7.8	0-2	0	0.0-2.0	0
	28-60	10-15	7.4-7.8	5-10	0	0.0-2.0	0
Menefee-----	0-2	20-25	7.4-8.4	5-10	0	0.0-2.0	0-5
	2-10	15-20	7.4-8.4	5-10	0	0.0-2.0	0-5
	10-60	---	---	---	---	---	---
Vessilla-----	0-2	5.0-10	6.6-8.4	5-10	0	0.0-2.0	0-2
	2-10	5.0-10	7.4-8.4	5-10	0	0.0-2.0	0-2
	10-60	---	---	---	---	---	---
42:							
Walrees-----	0-4	15-25	7.9-9.0	2-7	0	2.0-8.0	0-5
	4-23	10-25	7.9-9.0	2-7	0	2.0-8.0	0-5
	23-60	0.0-11	7.9-9.0	2-7	0	0.0-2.0	0-5
Abiquiu-----	0-3	5.0-10	7.9-8.4	5-10	0	0.0-2.0	0
	3-17	5.0-10	7.9-8.4	0-5	0	0.0-2.0	0
	17-60	1.4-5.4	7.9-8.4	5-10	0	0.0-2.0	0
50:							
Stout-----	0-2	73-81	5.1-6.0	0	0	0.0-2.0	0
	2-5	10-15	6.6-7.3	0	0	0.0-2.0	0
	5-14	10-15	6.6-7.3	0	0	0.0-2.0	0
	14-60	---	---	---	---	---	---
Kunz-----	0-3	10-15	6.6-7.3	0	0	0.0-2.0	0
	3-60	10-20	6.6-7.3	0-5	0	0.0-2.0	0

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
54: Capillo-----	0-4	10-20	6.6-7.3	0	0	0	0
	4-11	12-22	6.6-7.3	0	0	0	0
	11-16	20-30	6.6-7.8	0	0	0	0
	16-60	20-30	6.6-7.8	0	0	0	0
60: Sparham-----	0-4	20-25	7.9-8.4	1-10	0	0.0-2.0	0-12
	4-41	25-30	7.9-8.4	1-10	0	4.0-8.0	5-12
	41-54	25-30	7.9-8.4	1-10	0	4.0-8.0	5-12
	54-60	5.0-10	7.4-8.4	5-15	0	0.0-2.0	5-12
61: Colomex-----	0-6	5.0-15	7.4-7.8	0	0	0.0-2.0	0
	6-12	15-20	6.6-7.3	0	0	0.0-2.0	0
	12-34	10-20	6.6-7.3	0	0	0.0-2.0	0
	34-60	5.0-10	6.6-7.3	0	0	0.0-2.0	0
64: Dula-----	0-11	15-20	6.6-7.3	0	0	0.0-2.0	0
	11-28	15-20	6.6-7.3	0	0	0.0-2.0	0
	28-60	0.0-1.0	6.6-7.3	0	0	0.0-2.0	0
65: Doslomas-----	0-7	10-20	6.6-7.3	0	0	0.0-2.0	0
	7-28	20-30	6.6-7.8	0	0	0.0-2.0	0
	28-60	3.0-7.0	7.4-7.8	0	0	0.0-2.0	0

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
66: Encicado-----	0-17	20-30	7.4-7.8	0	0	0	0
	17-35	20-35	7.4-7.8	0	0	0	0
	35-60	20-25	7.4-7.8	0	0	0	0
69: Lindrith-----	0-11	15-20	6.6-7.8	5-15	0	0.0-4.0	0-5
	11-67	4.7-12	7.9-8.4	5-15	0	0.0-4.0	0-5
Royosa-----	0-2	2.0-10	6.6-7.8	0-5	0	0	0
	2-60	0.0-1.0	6.6-7.8	0-5	0	0	0
70: Sparham-----	0-2	20-25	7.4-9.0	1-10	0	8.0-16.0	0-13
	2-35	20-35	7.4-9.0	5-15	0	8.0-16.0	13-30
	35-60	25-35	7.4-9.0	5-15	0	8.0-16.0	13-30
80: Orlie-----	0-3	15-25	6.6-7.3	0	0	0.0-2.0	0
	3-35	20-25	6.6-8.4	0-5	0	0.0-2.0	0
	35-60	20-20	7.4-8.4	5-10	0	0.0-4.0	0
Nalivag-----	0-3	10-20	6.6-7.3	1-5	0	0.0-2.0	0-2
	3-60	15-25	7.4-7.8	1-5	0	0.0-2.0	0-2
102: Menefee-----	0-2	20-25	7.4-8.4	5-10	0	0.0-2.0	0-5
	2-14	15-20	7.4-8.4	5-10	0	0.0-2.0	0-5
	14-60	---	---	---	---	---	---

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
102: Nalivag-----	0-4	10-20	6.6-7.3	1-5	0	0.0-2.0	0-2
	4-60	15-25	7.4-7.8	1-5	0	0.0-2.0	0-2
103: Orlie-----	0-3	10-20	6.6-7.3	0	0	0.0-2.0	0
	3-13	20-25	6.6-8.4	0-5	0	0.0-2.0	0
	13-60	20-20	7.4-8.4	5-10	0	0.0-4.0	0
106: Amal-----	0-4	10-20	6.6-7.3	0-2	0	0.0-2.0	0
	4-43	15-20	6.6-7.3	0-2	0	0.0-2.0	0
	43-60	15-20	7.4-8.4	0-10	0	0.0-2.0	0
107: Berryman-----	0-3	20-20	7.4-8.4	40-55	0-2	0.0-2.0	0-2
	3-80	20-20	7.4-8.4	40-55	0-2	0.0-2.0	0-2
Ruson-----	0-2	15-25	7.4-8.4	1-5	0	0.0-4.0	0-5
	2-19	20-25	7.4-8.4	1-5	0	0.0-4.0	0-5
	19-65	19-30	7.4-8.4	1-5	0	0.0-4.0	0-5
108: Peney-----	0-3	10-15	7.4-8.4	10-15	0	0.0-2.0	0
	3-10	10-20	7.4-8.4	15-25	0	0.0-2.0	0
	10-60	---	---	---	---	---	---
Ransect-----	0-3	20-25	7.4-7.8	10-15	0	0.0-2.0	0-2
	3-38	15-25	7.4-7.8	40-60	0	0.0-2.0	0-2
	38-60	---	---	---	---	---	---

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
109:							
Calendar-----	0-2	10-15	7.4-8.4	5-10	0	0.0-2.0	0
	2-17	20-25	7.4-8.4	5-10	0	0.0-2.0	0
	17-35	20-25	7.4-8.4	10-15	0	0.0-4.0	0
	35-60	---	---	---	---	---	---
110:							
Vessilla-----	0-1	5.0-10	6.6-8.4	5-10	0	0.0-2.0	0-5
	1-15	5.0-10	7.4-8.4	5-10	0	0.0-2.0	0-5
	15-60	---	---	---	---	---	---
Menefee-----	0-3	20-25	7.4-8.4	5-10	0	0.0-2.0	0-2
	3-10	15-20	7.4-8.4	5-10	0	0.0-2.0	0-2
	10-60	---	---	---	---	---	---
Orlie-----	0-4	15-25	6.6-7.3	0-2	0	0.0-2.0	0
	4-14	20-25	6.6-8.4	0-5	0	0.0-2.0	0
	14-60	20-20	7.4-8.4	5-10	0	0.0-4.0	0
113:							
Teromote-----	0-2	5.0-15	7.4-7.8	0-5	0	0.0-2.0	0
	2-12	10-30	7.4-8.4	5-10	0	0.0-2.0	0
	12-65	10-30	7.9-8.4	10-15	0	0.0-4.0	0
Ruson-----	0-3	20-25	7.4-8.4	1-5	0	0.0-4.0	0-5
	3-65	25-30	7.4-8.4	1-5	0	0.0-4.0	0-5
115:							
Menefee-----	0-2	15-20	7.4-8.4	10-15	0	0.0-2.0	0-5
	2-11	15-20	7.4-8.4	10-15	0	0.0-2.0	0-5
	11-60	---	---	---	---	---	---

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
117: Chamita-----	0-7	15-20	6.6-7.3	0	0	0.0-2.0	0
	7-36	20-20	6.6-7.3	0	0	0.0-2.0	0
	36-55	10-25	6.6-7.3	0	0	0.0-2.0	0
	55-60	2.0-5.0	6.6-7.3	0	0	0.0-2.0	0
118: Hesperus-----	0-4	10-25	6.1-7.8	0	0	0.0-2.0	0
	4-60	15-35	6.1-7.8	0	0	0.0-2.0	0
Pastorius-----	0-12	15-25	6.1-6.5	0	0	0.0-2.0	0
	12-20	10-20	6.1-6.5	0	0	0.0-2.0	0
	20-60	10-20	6.6-7.3	0	0	0.0-2.0	0
Chamita-----	0-10	20-30	6.6-7.3	0	0	0.0-2.0	0
	10-36	20-20	6.6-7.3	0	0	0.0-2.0	0
	36-60	10-25	6.6-7.3	0	0	0.0-2.0	0
119: Roques-----	0-2	25-30	6.6-7.3	1-5	0	0.0-2.0	0
	2-60	25-35	7.4-7.8	5-10	0	0.0-2.0	0
Nusmag-----	0-3	25-30	7.4-7.8	1-5	0	0	0
	3-60	25-35	7.4-8.4	1-10	0	0	0
125: Hogg-----	0-3	15-20	6.6-7.3	0	0	0	0
	3-60	20-30	6.6-7.3	0	0	0	0

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
125: Mara-----	0-2	10-20	7.4-7.8	5-15	0	0.0-2.0	0
	2-18	15-25	7.4-7.8	5-15	0	0.0-2.0	0
	18-60	15-20	7.4-7.8	5-15	0	0.0-2.0	0
127: Rombo-----	0-4	25-30	6.6-7.3	0-5	0	0.0-2.0	0-5
	4-21	25-30	7.4-7.8	0-5	0	0.0-2.0	0-5
	21-37	25-30	7.4-7.8	0-10	0	0.0-2.0	0-5
	37-60	---	---	---	---	---	---
Wiggler-----	0-3	20-30	7.9-9.0	1-5	0	0.0-2.0	0-5
	3-10	10-25	7.9-9.0	2-10	0	0.0-2.0	0-5
	10-60	---	---	---	---	---	---
129: Nusmag-----	0-2	25-30	7.4-7.8	1-5	0	0.0-2.0	0
	2-60	25-35	7.4-8.4	1-10	0	0.0-2.0	0
Tottles-----	0-6	20-25	7.4-8.4	5-10	0	0.0-2.0	0-2
	6-21	25-30	7.4-8.4	5-10	0	0.0-2.0	0-2
	21-60	25-35	7.4-8.4	5-10	0	0.0-2.0	0-2
130: Topetaul-----	0-6	10-20	6.6-7.3	0	0	0.0-2.0	0
	6-13	15-20	6.1-6.5	0	0	0.0-2.0	0
	13-28	20-30	6.1-6.5	0	0	0.0-2.0	0
	28-60	20-30	6.1-6.5	0	0	0.0-2.0	0

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
130: Hogg-----	0-7	15-20	6.6-7.3	0	0	0.0-2.0	0
	7-25	20-30	6.6-7.3	0-2	0	0.0-2.0	0
	25-60	20-30	7.4-7.8	5-15	0	0.0-2.0	0
132: Stout-----	0-3	10-15	6.6-7.3	0	0	0.0-2.0	0
	3-14	10-15	6.6-7.3	0	0	0.0-2.0	0
	14-18	---	---	---	---	---	---
Carjo-----	0-5	10-15	6.6-7.3	0	0	0.0-2.0	0
	5-10	15-20	6.6-7.3	0	0	0.0-2.0	0
	10-38	15-25	6.6-7.3	0	0	0.0-2.0	0
	38-60	---	---	---	---	---	---
Rock Outcrop-----	0-60	---	---	---	---	---	---
133: Carrick-----	0-3	15-20	6.6-7.8	0	0	0	0
	3-9	15-20	6.6-7.3	0	0	0	0
	9-60	20-30	6.6-7.3	0	0	0	0
136: Elpedro-----	0-3	10-15	7.4-7.8	5-15	0	0.0-2.0	0
	3-25	10-20	7.4-8.4	5-15	0	0.0-2.0	0
	25-60	10-20	7.4-8.4	5-15	0	0.0-2.0	0
137: Yata-----	0-10	15-20	6.6-7.3	0	0	0	0
	10-21	25-30	6.6-7.3	0	0	0	0
	21-60	25-30	6.6-7.3	0	0	0	0

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
137: Eody-----	0-4	15-20	6.6-7.3	0	0	0.0-2.0	0
	4-60	20-30	6.1-7.3	0	0	0.0-2.0	0
140: Espiritu-----	0-5	15-20	7.4-7.8	0	0	0.0-2.0	0
	5-19	15-25	7.4-7.8	1-5	0	0.0-2.0	0
	19-40	10-15	7.4-7.8	5-15	0	0.0-2.0	0
	40-60	5.0-15	7.4-7.8	5-15	0	0.0-2.0	0
Wauquie-----	0-3	5.0-15	6.6-7.3	0	0	0.0-2.0	0
	3-13	15-20	7.4-7.8	0	0	0.0-2.0	0
	13-19	15-20	7.4-7.8	0-5	0	0.0-2.0	0
	19-60	5.0-10	7.4-7.8	5-15	0	0.0-2.0	0
141: Capillo-----	0-4	10-20	6.6-7.3	0	0	0	0
	4-11	10-15	6.6-7.3	0	0	0	0
	11-16	20-30	6.6-7.8	0	0	0	0
	16-60	20-30	6.6-7.8	0	0	0	0
Carjo-----	0-4	10-15	6.6-7.3	0	0	0.0-2.0	0
	4-31	15-25	6.6-7.3	0	0	0.0-2.0	0
	31-60	---	---	---	---	---	---
Vamer-----	0-2	10-20	6.6-7.3	0	0	0	0
	2-19	25-30	6.6-7.3	0-5	0	0	0
	19-60	---	---	---	---	---	---

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
142: Pinavetes-----	0-2	0.0-1.0	6.6-8.4	0-5	0	0	0
	2-60	5.0-10	6.6-8.4	0-5	0	0	0
145: Dermala-----	0-3	5.0-15	7.4-7.8	0	0	0.0-2.0	0
	3-12	15-20	7.4-7.8	0-5	0	0.0-2.0	0
	12-32	10-20	7.9-8.4	5-10	0	0.0-2.0	0
	32-60	15-20	7.4-8.4	5-10	0	0.0-2.0	0
Rosced-----	0-5	5.0-15	7.4-7.8	0	0	0.0-2.0	0
	5-16	5.0-10	7.4-7.8	0	0	0.0-2.0	0
	16-33	5.0-10	7.9-8.4	5-15	0	0.0-2.0	0
	33-60	1.0-5.0	7.9-8.4	5-15	0	0.0-2.0	0
146: Parida-----	0-3	5.0-15	6.6-7.3	0	0	0.0-2.0	0
	3-28	5.0-10	6.6-7.3	0-2	0	0.0-2.0	0
	28-65	5.0-10	7.4-7.8	0-5	0	0.0-2.0	0
Palacid-----	0-4	5.0-15	6.6-7.3	0	0	0.0-2.0	0
	4-14	10-25	7.4-7.8	0-2	0	0.0-2.0	0
	14-45	15-25	7.9-8.4	5-15	0	0.0-2.0	0
	45-68	10-25	7.9-8.4	5-15	0	0.0-2.0	0
147: Dermala-----	0-4	5.0-15	7.4-7.8	0	0	0.0-2.0	0
	4-60	10-20	7.9-8.4	5-10	0	0.0-2.0	0

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
147: Chimayo-----	0-3	5.0-15	6.6-7.3	0	0	0.0-2.0	0
	3-13	5.0-10	7.4-7.8	0	0	0.0-2.0	0
	13-60	---	---	---	---	---	---
148: Chita-----	0-3	5.0-15	7.4-7.8	0-2	0	0.0-2.0	0
	3-10	5.0-10	7.4-7.8	0-2	0	0.0-2.0	0
	10-38	15-20	7.4-8.4	25-35	0	0.0-2.0	0
	38-60	10-20	7.9-8.4	25-35	0	0.0-2.0	0
149: Yarts-----	0-3	5.0-10	7.9-8.4	5-15	0-1	0.0-4.0	0-5
	3-60	5.0-10	7.4-8.4	5-15	0-1	0.0-4.0	0-5
151: Razito-----	0-4	0.0-1.0	7.4-8.4	0	0	0.0-2.0	0
	4-60	0.0-1.0	7.4-8.4	0-5	0	0.0-2.0	0
Fruitland-----	0-3	5.0-10	7.4-8.4	5-10	0	0.0-4.0	0-2
	3-50	5.0-10	7.4-8.4	5-10	0	0.0-4.0	0-2
	50-60	5.0-10	7.4-8.4	5-10	0	0.0-4.0	0-2
170: Sedillo-----	0-12	10-15	7.9-8.4	5-10	0	0.0-2.0	0
	12-36	10-15	7.9-9.0	5-10	0	0.0-2.0	0-5
	36-60	5.0-10	7.9-9.0	15-30	0	0.0-2.0	0-5

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
173: Oelop-----	0-5	5.0-15	7.9-8.4	0-2	0	0.0-2.0	0
	5-45	10-25	7.9-8.4	1-10	0	2.0-4.0	0
	45-60	5.0-10	7.9-9.0	5-15	0	2.0-4.0	0
180: Oelop-----	0-1	10-20	7.9-8.4	0-2	0	0.0-2.0	0
	1-60	10-25	7.9-8.4	0-10	0	2.0-4.0	0
182: Oelop-----	0-3	5.0-10	7.4-7.8	0-2	0	0.0-2.0	0
	3-11	15-20	7.4-7.8	0-5	0	2.0-4.0	0
	11-60	15-20	7.9-8.4	5-15	0	2.0-4.0	0
190: Sedillo-----	0-5	10-15	7.4-8.4	5-10	0	0.0-2.0	0
	5-25	10-15	7.9-9.0	5-10	0	0.0-2.0	0-5
	25-60	5.0-10	7.9-9.0	15-30	0	0.0-2.0	0-5
200: Katlon-----	0-4	73-81	5.1-6.0	0	0	0.0-2.0	0
	4-18	20-30	6.6-7.3	0	0	0	0
	18-31	15-25	6.1-6.5	0	0	0	0
	31-80	---	4.5-5.0	0	0	0	0
201: Lobat-----	0-1	73-81	5.1-6.0	0	0	0.0-2.0	0
	1-7	15-20	6.1-7.3	0	0	0.0-2.0	0
	7-48	20-20	6.1-7.3	0	0	0.0-2.0	0
	48-60	15-20	6.1-7.3	0	0	0.0-2.0	0

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
201: Abreu-----	0-2	73-81	5.1-6.0	0	0	0.0-2.0	0
	2-4	10-20	5.6-7.3	0	0	0.0-2.0	0
	4-15	10-15	5.6-7.3	0	0	0.0-2.0	0
	15-58	15-20	5.6-7.3	0	0	0.0-2.0	0
	58-60	---	---	---	---	---	---
203: Nabor-----	0-6	20-25	6.6-7.3	0-2	0	0.0-2.0	0
	6-17	25-30	7.4-7.8	0-2	0	0.0-2.0	0
	17-37	25-35	7.4-7.8	0-2	0	0.0-2.0	0
	37-60	20-30	7.4-7.8	5-10	0	0.0-2.0	0
Elbuck-----	0-3	10-20	6.6-7.3	0	0	0.0-2.0	0
	3-14	15-15	5.6-6.0	0	0	0.0-2.0	0
	14-60	10-20	5.6-6.0	0-2	0	0.0-2.0	0
206: Angostura-----	0-4	10-20	6.6-7.3	0	0	0	0
	4-43	15-25	6.6-7.3	0	0	0	0
	43-60	15-20	6.6-7.3	0	0	0	0
Gromes-----	0-3	10-20	6.1-6.5	0	0	0.0-2.0	0
	3-60	15-25	6.1-6.5	0	0	0.0-2.0	0
207: Gromes-----	0-11	10-20	6.1-6.5	0	0	0.0-2.0	0
	11-60	15-25	6.1-6.5	0	0	0.0-2.0	0
Rock Outcrop-----	0-60	---	---	---	---	---	---

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
208:							
Ess-----	0-13	15-20	5.6-7.8	0	0	0	0
	13-40	15-20	6.1-7.8	0	0	0	0
	40-60	5.0-15	6.1-7.8	0	0	0	0
Croftshaw-----	0-10	10-20	6.1-6.5	0	0	0.0-2.0	0
	10-60	20-25	5.6-6.0	0	0	0.0-2.0	0
209:							
Crubas-----	0-3	73-81	5.1-6.0	0	0	0.0-2.0	0
	3-15	20-30	5.1-6.5	0	0	0.0-2.0	0
	15-37	25-30	5.1-6.5	0	0	0.0-2.0	0
	37-60	25-30	5.1-6.5	0	0	0.0-2.0	0
Bywell-----	0-4	15-20	5.6-6.5	0	0	0.0-2.0	0
	4-11	15-20	6.6-7.3	0	0	0.0-2.0	0
	11-42	5.0-10	6.6-7.3	0	0	0.0-2.0	0
	42-60	---	---	---	---	---	---
Croftshaw-----	0-8	10-20	6.1-6.5	0	0	0.0-2.0	0
	8-28	20-25	5.6-6.0	0	0	0.0-2.0	0
	28-60	10-15	5.6-6.5	0	0	0.0-2.0	0
210:							
Rock Outcrop-----	0-60	---	---	---	---	---	---
Bracos-----	0-3	73-81	5.1-6.0	0	0	0.0-2.0	0
	3-8	15-20	5.1-6.0	0	0	0.0-2.0	0
	8-21	10-20	5.1-6.0	0	0	0.0-2.0	0
	21-32	10-15	5.1-6.0	0	0	0.0-2.0	0
	32-60	---	---	---	---	---	---

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
211: Angostura-----	0-8	10-20	6.6-7.3	0	0	0	0
	8-60	15-20	6.6-7.3	0	0	0	0
214: Quimera-----	0-3	20-25	6.6-7.8	1-5	0	2.0-4.0	0-4
	3-15	20-25	6.6-7.8	5-10	0	2.0-4.0	0-4
	15-17	25-30	7.9-8.4	5-10	0	2.0-4.0	0-4
	17-60	---	---	---	---	---	---
Vamer-----	0-3	20-25	6.6-7.3	0	0	0.0-2.0	0
	3-19	25-30	6.6-7.3	0-5	0	0.0-2.0	0
	19-60	---	---	---	---	---	---
215: Saragote-----	0-1	73-81	5.1-6.0	0	0	0.0-2.0	0
	1-9	15-20	5.6-6.0	0	0	0.0-2.0	0
	9-60	30-35	5.6-6.0	0	0	0.0-2.0	0
Ess-----	0-12	15-20	5.6-7.8	0	0	0	0
	12-40	15-20	6.1-7.8	0	0	0	0
	40-60	5.0-15	6.1-7.8	0	0	0	0
216: Angostura-----	0-12	10-15	6.6-7.3	0	0	0	0
	12-60	15-20	6.6-7.3	0	0	0	0
220: Rock Outcrop-----	0-60	---	---	---	---	---	---

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
220:							
Vessilla-----	0-2	5.0-10	6.6-8.4	5-10	0	0.0-2.0	0-2
	2-10	5.0-10	7.4-8.4	5-10	0	0.0-2.0	0-2
	10-60	---	---	---	---	---	---
Menefee-----	0-1	20-25	7.4-8.4	5-10	0	0.0-2.0	0-5
	1-10	15-20	7.4-8.4	5-10	0	0.0-2.0	0-5
	10-60	---	---	---	---	---	---
228:							
Suposo-----	0-4	20-25	6.6-7.3	0-2	0	0.0-2.0	0
	4-16	20-30	6.6-7.8	0-2	0	0.0-2.0	0
	16-31	20-30	7.4-7.8	5-10	0	0.0-2.0	0
	31-60	20-30	7.4-7.8	10-15	0	0.0-2.0	0
Brycan-----	0-10	15-20	7.4-7.8	0	0	0	0
	10-60	15-20	7.4-7.8	0	0	0	0
230:							
Badland-----	0-60	---	---	---	---	---	---
240:							
Riverwash, gravelly--	0-6	25-30	6.6-7.3	0	0	0.0-2.0	0-2
	6-60	0.0-1.0	6.6-7.3	0	0	0.0-2.0	0-1
241:							
Florita-----	0-3	5.0-10	7.9-8.4	0-2	0	0.0-2.0	0-2
	3-38	5.0-10	7.9-8.4	0-2	0	0.0-2.0	0-2
	38-60	5.0-10	8.5-9.0	0-5	0	0.0-2.0	0-12
Rock Outcrop-----	0-60	---	---	---	---	---	---

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
242:							
Tinaja-----	0-4	15-20	7.4-7.8	5-10	0	0.0-2.0	0
	4-43	10-20	7.4-7.8	15-35	0	0.0-2.0	0
	43-60	10-15	7.4-7.8	5-20	0	0.0-2.0	0
Rock Outcrop-----	0-60	---	---	---	---	---	---
243:							
Penistaja-----	0-3	10-15	6.6-8.4	0	0	0.0-2.0	0
	3-18	15-20	6.6-8.4	5-10	0	0.0-2.0	0
	18-60	10-15	6.6-8.4	5-10	0	0.0-2.0	0
244:							
Scholle-----	0-7	10-20	6.6-7.8	0-5	0	0.0-2.0	0
	7-17	15-20	6.6-7.8	5-10	0	0.0-2.0	0
	17-24	15-20	7.4-8.4	5-15	0	0.0-2.0	0
	24-60	10-20	7.4-8.4	15-30	0	0.0-2.0	0
Silver-----	0-2	10-15	7.4-8.4	5-10	0	0.0-2.0	0
	2-34	20-25	7.4-8.4	10-15	0	0.0-2.0	0
	34-48	20-25	7.4-8.4	10-15	0	0.0-2.0	0
	48-60	20-25	7.4-8.4	10-15	0	0.0-2.0	0
245:							
Maia-----	0-10	10-20	6.6-7.3	0	0	0	0
	10-16	15-25	6.6-7.8	0-5	0	0	0
	16-25	15-25	7.9-8.4	5-15	0	0.0-2.0	0
	25-60	10-15	8.5-9.0	15-30	0	0.0-2.0	0-5

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
245: Manzano-----	0-3	10-20	6.6-7.3	0	0	0.0-2.0	0
	3-49	15-20	6.6-7.3	0-10	0	0.0-2.0	0
	49-60	5.0-10	6.6-7.3	5-15	0	0.0-2.0	0
246: Pena-----	0-2	5.0-15	7.9-8.4	5-10	0	0.0-2.0	0-5
	2-30	10-15	7.9-8.4	10-15	0	0.0-2.0	0-5
	30-60	5.0-10	7.9-8.4	15-30	0	0.0-2.0	0-5
247: Wenota-----	0-8	20-25	7.9-8.4	1-5	0	0.0-2.0	0-5
	8-60	20-25	7.9-8.4	1-5	0	0.0-2.0	0-5
248: Hagerman-----	0-3	10-15	6.6-7.8	0	0	0.0-2.0	0
	3-24	10-20	6.6-8.4	0-10	0	0.0-2.0	0
	24-60	---	---	---	---	---	---
Silver-----	0-4	10-15	7.4-8.4	5-10	0	0.0-2.0	0
	4-60	20-25	7.4-8.4	10-15	0	0.0-2.0	0
249: Losmarios-----	0-6	15-20	7.4-7.8	5-10	0	0.0-2.0	0
	6-29	25-35	7.9-8.4	5-15	0	2.0-4.0	0
	29-60	25-35	7.9-8.4	5-15	0	2.0-4.0	0

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
302:							
Puye-----	0-3	5.0-25	7.4-8.4	0-3	0	0.0-4.0	0
	3-15	5.0-20	7.4-8.4	0-5	0	0.0-4.0	0
	15-16	---	---	---	---	---	---
	16-60	5.0-10	7.4-8.4	0-5	0	0.0-4.0	0
401:							
Chiminet-----	0-1	73-81	5.1-6.0	0	0	0.0-2.0	0
	1-3	5.0-15	6.6-7.8	0	0	0.0-2.0	0
	3-10	5.0-10	6.1-7.3	0	0	0.0-2.0	0
	10-60	---	---	---	---	---	---
Rock Outcrop-----	0-60	---	---	---	---	---	---
407:							
Totavi-----	0-3	73-81	5.1-6.0	0	0	0.0-2.0	0
	3-6	10-15	6.6-7.8	0-5	0	0.0-2.0	0
	6-28	5.0-10	6.6-7.8	0-5	0	0.0-2.0	0
	28-60	5.0-10	6.6-7.8	0-5	0	0.0-2.0	0
704:							
Chrishall-----	0-17	10-20	6.1-7.3	0	0	0.0-2.0	0
	17-60	5.0-10	6.1-7.3	0	0	0.0-2.0	0
710:							
Calaveras-----	0-3	73-81	5.1-6.0	0	0	0.0-2.0	0
	3-9	5.0-15	6.6-7.3	0	0	0	0
	9-60	10-15	6.1-7.3	0	0	0	0

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
710: Palon-----	0-1	73-81	5.1-6.0	0	0	0.0-2.0	0
	1-16	5.0-15	6.6-7.3	0	0	0	0
	16-40	0.0-1.0	5.6-6.5	0	0	0	0
	40-60	5.0-10	5.6-6.5	0	0	0	0
711: Laventana-----	0-5	10-20	6.6-7.3	0	0	0	0
	5-11	5.0-15	6.6-7.3	0	0	0	0
	11-23	15-20	6.6-7.3	0	0	0	0
	23-60	10-20	6.6-7.3	0	0	0	0
719: Alanos-----	0-1	73-81	5.1-6.0	0	0	0.0-2.0	0
	1-7	10-30	6.6-7.3	0-2	0	0.0-2.0	0
	7-27	20-35	6.6-7.3	0-2	0	0.0-2.0	0
	27-39	15-20	7.4-7.8	0-5	0	0.0-2.0	0
	39-60	10-15	7.4-7.8	0-5	0	0.0-2.0	0
802: Redondo-----	0-2	73-81	5.1-6.0	0	0	0.0-2.0	0
	2-5	15-25	6.1-7.3	0	0	0.0-2.0	0
	5-16	15-20	5.6-6.5	0	0	0.0-2.0	0
	16-60	10-20	5.6-6.5	0	0	0.0-2.0	0
803: Rusbach-----	0-2	73-81	5.1-6.0	0	0	0.0-2.0	0
	2-16	5.0-10	5.6-7.3	0	0	0	0
	16-25	5.0-10	5.1-6.5	0	0	0	0
	25-70	5.0-10	5.1-6.5	0	0	0	0

Table 19.--Chemical properties of the soils--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	<u>In.</u>	<u>meq/100 g</u>	<u>pH</u>	<u>Pct.</u>	<u>Pct.</u>	<u>mmhos/cm</u>	
DAM: Dam-----	---	---	---	---	---	---	---
W: Water-----	---	---	---	---	---	---	---

Table 20.--Water features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				<u>Ft.</u>	<u>Ft.</u>		
9: Pinavetes-----	A	Low	Jan-Dec	---	---	---	None
Florita-----	A	Very low	Jan-Dec	---	---	---	None
10: Sparank-----	D	Medium	March	---	---	---	Rare
			April	---	---	---	Rare
			May	---	---	---	Rare
			June	---	---	---	Rare
			July	---	---	---	Rare
			August	---	---	---	Rare
San Mateo-----	C	Low	March	---	---	---	Rare
			April	---	---	---	Rare
			May	---	---	---	Rare
			June	---	---	---	Rare
			July	---	---	---	Rare
			August	---	---	---	Rare
11: Fruitland-----	B	Very low	Jan-Dec	---	---	---	None
12: Pinavetes-----	A	Very low	Jan-Dec	---	---	---	None

Table 20.--Water features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				<u>Ft.</u>	<u>Ft.</u>		
18: Abiquiu-----	B	Low	April	2.0-4.0	>6.0	Long	Occasional
			May	2.0-4.0	>6.0	Long	Occasional
			June	2.0-4.0	>6.0	Long	Occasional
Peralta-----	B	Low	March	2.0-3.0	>6.0	---	None
			April	2.0-3.0	>6.0	Long	Occasional
			May	2.0-3.0	>6.0	Long	Occasional
			June	2.0-3.0	>6.0	Long	Occasional
			July	2.0-3.0	>6.0	---	None
			August	2.0-3.0	>6.0	---	None
			September	2.0-3.0	>6.0	---	None
			October	2.0-3.0	>6.0	---	None
20: Menefee-----	D	Very high	Jan-Dec	---	---	---	None
Vessilla-----	D	High	Jan-Dec	---	---	---	None
Rock outcrop-----	---	---	Jan-Dec	---	---	---	None
21: Werlog-----	C	Low	March	2.0-3.5	>6.0	---	Rare
			April	2.0-3.5	>6.0	---	Rare
			May	2.0-3.5	>6.0	---	Rare
			June	2.0-3.5	>6.0	---	Rare
			July	2.0-3.5	>6.0	---	Rare
			August	2.0-3.5	>6.0	---	Rare
			September	2.0-3.5	>6.0	---	None
			October	2.0-3.5	>6.0	---	None
			November	2.0-3.5	>6.0	---	None

Table 20.--Water features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				<u>Ft.</u>	<u>Ft.</u>		
22: Jocity-----	C	Very low	Jan-Dec	---	---	---	None
Gilco-----	B	Low	Jan-Dec	---	---	---	None
23: Gilco-----	C	Low	Jan-Dec	---	---	---	None
24: Jocity-----	C	Low	Jan-Dec	---	---	---	None
30: San Mateo-----	C	Low	March April May June July August	---	---	---	Rare Rare Rare Rare Rare Rare
31: Gobernador-----	D	Medium	Jan-Dec	---	---	---	None
Orlie-----	C	Medium	Jan-Dec	---	---	---	None
34: Alcalde-----	D	Medium	March April May June July August	---	---	---	Rare Rare Rare Rare Rare Rare

Table 20.--Water features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				<u>Ft.</u>	<u>Ft.</u>		
39: Fruitland-----	B	Very low	Jan-Dec	---	---	---	None
40: Pinitos-----	B	Medium	Jan-Dec	---	---	---	None
Menefee-----	D	High	Jan-Dec	---	---	---	None
Vessilla-----	D	High	Jan-Dec	---	---	---	None
42: Walrees-----	C	Low	May	2.0-5.0	>6.0	---	None
			June	2.0-5.0	>6.0	Brief	Occasional
			July	2.0-5.0	>6.0	Brief	Occasional
			August	2.0-5.0	>6.0	Brief	Occasional
			September	2.0-5.0	>6.0	Brief	Occasional
			October	2.0-5.0	>6.0	---	None
			November	2.0-5.0	>6.0	---	None
Abiquiu-----	A	Very low	April	2.0-4.0	>6.0	Long	Occasional
			May	2.0-4.0	>6.0	Long	Occasional
			June	2.0-4.0	>6.0	Long	Occasional
50: Stout-----	D	Medium	Jan-Dec	---	---	---	None
Kunz-----	C	Medium	Jan-Dec	---	---	---	None
54: Capillo-----	D	Medium	Jan-Dec	---	---	---	None

Table 20.--Water features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				<u>Ft.</u>	<u>Ft.</u>		
60: Sparham-----	D	Medium	March	4.0-5.0	>6.0	---	Rare
			April	4.0-5.0	>6.0	---	Rare
			May	4.0-5.0	>6.0	---	Rare
			June	4.0-5.0	>6.0	---	Rare
			July	4.0-5.0	>6.0	---	Rare
			August	4.0-5.0	>6.0	---	Rare
			September	4.0-5.0	>6.0	---	None
			October	4.0-5.0	>6.0	---	None
61: Colomex-----	B	Low	Jan-Dec	---	---	---	None
64: Dula-----	B	High	April	1.0-1.7	>6.0	Long	Frequent
			May	1.0-1.7	>6.0	Long	Frequent
			June	1.0-1.7	>6.0	Long	Frequent
			July	1.0-1.7	>6.0	Long	Frequent
			August	1.0-1.7	>6.0	Long	Frequent
65: Doslomas-----	C	Low	Jan-Dec	---	---	---	None
66: Encicado-----	C	Low	March	---	---	Long	Occasional
			April	---	---	Long	Occasional
			May	---	---	Long	Occasional
69: Lindrith-----	C	Medium	Jan-Dec	---	---	---	None
Royosa-----	A	Very low	Jan-Dec	---	---	---	None

Table 20.--Water features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				<u>Ft.</u>	<u>Ft.</u>		
70: Sparham-----	D	Medium	March	---	---	---	Rare
			April	---	---	---	Rare
			May	---	---	---	Rare
			June	---	---	---	Rare
			July	---	---	---	Rare
			August	---	---	---	Rare
80: Orlie-----	C	Medium	Jan-Dec	---	---	---	None
Nalivag-----	C	Medium	Jan-Dec	---	---	---	None
102: Menefee-----	D	High	Jan-Dec	---	---	---	None
Nalivag-----	C	Medium	Jan-Dec	---	---	---	None
103: Orlie-----	C	Medium	Jan-Dec	---	---	---	None
106: Amal-----	C	Medium	Jan-Dec	---	---	---	None
107: Berryman-----	D	High	Jan-Dec	---	---	---	None
Ruson-----	D	Medium	Jan-Dec	---	---	---	None
108: Peney-----	D	High	Jan-Dec	---	---	---	None

Table 20.--Water features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				<u>Ft.</u>	<u>Ft.</u>		
108: Ransect-----	C	Low	Jan-Dec	---	---	---	None
109: Calendar-----	D	High	Jan-Dec	---	---	---	None
110: Vessilla-----	D	Medium	Jan-Dec	---	---	---	None
Menefee-----	D	High	Jan-Dec	---	---	---	None
Orlie-----	C	Medium	Jan-Dec	---	---	---	None
113: Teromote-----	C	Medium	Jan-Dec	---	---	---	None
Ruson-----	D	Medium	Jan-Dec	---	---	---	None
115: Menefee-----	D	High	Jan-Dec	---	---	---	None
117: Chamita-----	C	High	March	0.0-3.0	>6.0	---	None
			April	0.0-3.0	>6.0	Long	Frequent
			May	0.0-3.0	>6.0	Long	Frequent
			June	0.0-3.0	>6.0	---	None
118: Hesperus-----	C	Low	Jan-Dec	---	---	---	None
Pastorius-----	B	Low	Jan-Dec	---	---	---	None

Table 20.--Water features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				<u>Ft.</u>	<u>Ft.</u>		
118: Chamita-----	C	High	March	0.0-3.0	>6.0	---	None
			April	0.0-3.0	>6.0	Long	Frequent
			May	0.0-3.0	>6.0	Long	Frequent
			June	0.0-3.0	>6.0	---	None
119: Roques-----	D	High	Jan-Dec	---	---	---	None
Nusmag-----	D	Medium	March	3.5-6.0	>6.0	---	None
			April	3.5-6.0	>6.0	---	None
			May	3.5-6.0	>6.0	---	None
			June	3.5-6.0	>6.0	---	None
125: Hogg-----	D	High	Jan-Dec	---	---	---	None
Mara-----	C	Medium	Jan-Dec	---	---	---	None
127: Rombo-----	D	Medium	Jan-Dec	---	---	---	None
Wiggler-----	D	High	Jan-Dec	---	---	---	None
129: Nusmag-----	D	Medium	March	3.5-6.0	>6.0	---	None
			April	3.5-6.0	>6.0	---	None
			May	3.5-6.0	>6.0	---	None
			June	3.5-6.0	>6.0	---	None

Table 20.--Water features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				<u>Ft.</u>	<u>Ft.</u>		
129: Tottles-----	D	High	April	0.5-3.0	>6.0	---	None
			May	0.5-3.0	>6.0	---	None
			June	0.5-3.0	>6.0	---	None
			July	3.0-3.5	>6.0	---	None
			August	3.0-3.5	>6.0	---	None
			September	3.0-3.5	>6.0	---	None
130: Topetaul-----	D	High	Jan-Dec	---	---	---	None
Hogg-----	D	High	Jan-Dec	---	---	---	None
132: Stout-----	D	Medium	Jan-Dec	---	---	---	None
Carjo-----	D	High	Jan-Dec	---	---	---	None
Rock outcrop-----	D	---	Jan-Dec	---	---	---	None
133: Carrick-----	D	Medium	Jan-Dec	---	---	---	None
136: Elpedro-----	C	Low	Jan-Dec	---	---	---	None
137: Yata-----	D	High	Jan-Dec	---	---	---	None
Eody-----	D	Very high	Jan-Dec	---	---	---	None

Table 20.--Water features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				<u>Ft.</u>	<u>Ft.</u>		
140: Espiritu-----	B	High	Jan-Dec	---	---	---	None
Wauquie-----	B	High	Jan-Dec	---	---	---	None
141: Capillo-----	D	High	Jan-Dec	---	---	---	None
Carjo-----	D	High	Jan-Dec	---	---	---	None
Vamer-----	D	High	Jan-Dec	---	---	---	None
142: Pinavetes-----	A	Low	Jan-Dec	---	---	---	None
145: Dermala-----	C	High	Jan-Dec	---	---	---	None
Rosced-----	A	Medium	Jan-Dec	---	---	---	None
146: Parida-----	B	Medium	Jan-Dec	---	---	---	None
Palacid-----	C	High	Jan-Dec	---	---	---	None
147: Dermala-----	B	High	Jan-Dec	---	---	---	None
Chimayo-----	D	High	Jan-Dec	---	---	---	None
148: Chita-----	C	Low	Jan-Dec	---	---	---	None

Table 20.--Water features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				<u>Ft.</u>	<u>Ft.</u>		
149: Yarts-----	B	Very low	Jan-Dec	---	---	---	None
151: Razito-----	A	Very low	Jan-Dec	---	---	---	None
Fruitland-----	B	Very low	Jan-Dec	---	---	---	None
170: Sedillo-----	C	Low	Jan-Dec	---	---	---	None
173: Oelop-----	C	Low	Jan-Dec	---	---	---	None
180: Oelop-----	C	Low	Jan-Dec	---	---	---	None
182: Oelop-----	C	Medium	Jan-Dec	---	---	---	None
190: Sedillo-----	C	Low	Jan-Dec	---	---	---	None
200: Katlon-----	D	High	Jan-Dec	---	---	---	None
201: Lobat-----	C	High	Jan-Dec	---	---	---	None
Abreu-----	C	High	Jan-Dec	---	---	---	None

Table 20.--Water features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				<u>Ft.</u>	<u>Ft.</u>		
203: Nabor-----	D	Very high	Jan-Dec	---	---	---	None
Elbuck-----	C	Medium	Jan-Dec	---	---	---	None
206: Angostura-----	C	High	Jan-Dec	---	---	---	None
Gromes-----	C	High	Jan-Dec	---	---	---	None
207: Gromes-----	C	High	Jan-Dec	---	---	---	None
Rock outcrop-----	D	---	Jan-Dec	---	---	---	None
208: Ess-----	B	Medium	Jan-Dec	---	---	---	None
Croftshaw-----	C	Medium	Jan-Dec	---	---	---	None
209: Crubas-----	D	High	January	0.0-1.7	>6.0	---	None
			February	0.0-1.7	>6.0	---	None
			March	0.0-1.7	>6.0	Long	Frequent
			April	0.0-1.7	>6.0	Long	Frequent
			May	0.0-1.7	>6.0	Long	Frequent
			June	0.0-1.7	>6.0	Long	Frequent
			July	0.0-1.7	>6.0	---	None
			December	0.0-1.7	>6.0	---	None

Table 20.--Water features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				<u>Ft.</u>	<u>Ft.</u>		
209: Bywell-----	D	High	January	0.0-2.5	>6.0	---	None
			February	0.0-2.5	>6.0	---	None
			March	0.0-2.5	>6.0	---	None
			April	0.0-2.5	>6.0	---	None
			May	0.0-2.5	>6.0	---	None
			June	0.0-2.5	>6.0	Long	Frequent
			July	0.0-2.5	>6.0	Long	Frequent
			December	0.0-2.5	>6.0	---	None
Croftshaw-----	C	Medium	Jan-Dec	---	---	---	None
210: Rock outcrop-----	D	---	Jan-Dec	---	---	---	None
Bracos-----	C	High	Jan-Dec	---	---	---	None
211: Angostura-----	B	High	Jan-Dec	---	---	---	None
214: Quimera-----	D	Very high	Jan-Dec	---	---	---	None
Vamer-----	D	Very high	Jan-Dec	---	---	---	None
215: Saragote-----	D	Medium	January	2.0-3.5	>6.0	---	None
			February	2.0-3.5	>6.0	---	None
			March	2.0-3.5	>6.0	---	None
			April	2.0-3.5	>6.0	---	None
			May	2.0-3.5	>6.0	---	None
			June	2.0-3.5	>6.0	---	None

Table 20.--Water features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				<u>Ft.</u>	<u>Ft.</u>		
215: Ess-----	B	Medium	Jan-Dec	---	---	---	None
216: Angostura-----	B	High	Jan-Dec	---	---	---	None
220: Rock outcrop-----	D	---	Jan-Dec	---	---	---	None
Vessilla-----	D	High	Jan-Dec	---	---	---	None
Menefee-----	D	Very high	Jan-Dec	---	---	---	None
228: Suposo-----	D	Medium	Jan-Dec	---	---	---	None
Brycan-----	B	Low	May June July	---	---	Very brief Very brief Very brief	Occasional Occasional Occasional
230: Badland-----	D	Very high	Jan-Dec	---	---	---	None

Table 20.--Water features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				<u>Ft.</u>	<u>Ft.</u>		
240: Riverwash, gravelly-----	D	High	January	0.0-2.0	>6.0	Long	Frequent
			February	0.0-2.0	>6.0	Long	Frequent
			March	0.0-2.0	>6.0	Long	Frequent
			April	0.0-2.0	>6.0	Long	Frequent
			May	0.0-2.0	>6.0	Long	Frequent
			June	0.0-2.0	>6.0	Long	Frequent
			July	0.0-2.0	>6.0	Long	Frequent
			August	0.0-2.0	>6.0	---	None
			September	0.0-2.0	>6.0	---	None
			October	0.0-2.0	>6.0	Long	Frequent
			November	0.0-2.0	>6.0	Long	Frequent
			December	0.0-2.0	>6.0	Long	Frequent
241: Florita-----	B	Medium	Jan-Dec	---	---	---	None
Rock outcrop-----	D	---	Jan-Dec	---	---	---	None
242: Tinaja-----	B	High	Jan-Dec	---	---	---	None
Rock outcrop-----	D	---	Jan-Dec	---	---	---	None
243: Penistaja-----	B	Medium	Jan-Dec	---	---	---	None
244: Scholle-----	C	Low	Jan-Dec	---	---	---	None
Silver-----	D	Medium	Jan-Dec	---	---	---	None

Table 20.--Water features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				<u>Ft.</u>	<u>Ft.</u>		
245: Maia-----	C	Low	Jan-Dec	---	---	---	None
Manzano-----	B	Low	July	---	---	Brief	Occasional
			August	---	---	Brief	Occasional
246: Pena-----	A	Low	Jan-Dec	---	---	---	None
247: Wenota-----	D	Medium	June	---	---	Brief	Occasional
			July	---	---	Brief	Occasional
			August	---	---	Brief	Occasional
			September	---	---	Brief	Occasional
248: Hagerman-----	C	Low	Jan-Dec	---	---	---	None
Silver-----	D	High	Jan-Dec	---	---	---	None
249: Losmarios-----	D	Very high	Jan-Dec	---	---	---	None
302: Puye-----	D	High	Jan-Dec	---	---	---	None
401: Chiminet-----	D	High	Jan-Dec	---	---	---	None
Rock outcrop-----	D	---	Jan-Dec	---	---	---	None

Table 20.--Water features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
				<u>Ft.</u>	<u>Ft.</u>		
407: Totavi-----	B	Medium	Jan-Dec	---	---	---	None
704: Chrishall-----	B	Low	April	---	---	Very brief	Occasional
			May	---	---	Very brief	Occasional
			June	---	---	Very brief	Occasional
			July	---	---	Very brief	Occasional
			August	---	---	Very brief	Occasional
			September	---	---	Very brief	Occasional
			October	---	---	Very brief	Occasional
710: Calaveras-----	B	High	Jan-Dec	---	---	---	None
Palon-----	A	Medium	Jan-Dec	---	---	---	None
711: Laventana-----	B	High	Jan-Dec	---	---	---	None
719: Alanos-----	D	Very high	Jan-Dec	---	---	---	None
802: Redondo-----	B	Medium	Jan-Dec	---	---	---	None
803: Rusbach-----	A	Medium	Jan-Dec	---	---	---	None
DAM:			Jan-Dec	---	---	---	None

Table 20.--Water features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Flooding	
				Upper limit	Lower limit	Duration	Frequency
W: Water-----	---	---	Jan-Dec	<u>Ft.</u> ---	<u>Ft.</u> ---	---	None

Table 21.--Soil features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top <u>In.</u>		Uncoated steel	Concrete
9:					
Pinavetes-----	---	---	Low	Moderate	Low
Florita-----	---	---	Low	High	Low
10:					
Sparank-----	---	---	Low	High	Low
San Mateo-----	---	---	Low	High	Low
11:					
Fruitland-----	---	---	Low	High	Low
12:					
Pinavetes-----	---	---	Low	Moderate	Low
18:					
Abiquiu-----	---	---	Low	High	Low
Peralta-----	---	---	Low	High	Moderate
20:					
Menefee-----	Paralithic bedrock	10-20	Moderate	High	Moderate
Vessilla-----	Lithic bedrock	10-20	Low	High	Low
Rock outcrop-----	Lithic bedrock	0-0	---	---	---
21:					
Werlog-----	---	---	Low	High	Low

Table 21.--Soil features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top <u>In.</u>		Uncoated steel	Concrete
22: Jocity-----	---	---	Low	High	Low
Gilco-----	---	---	Low	High	Low
23: Gilco-----	---	---	Low	High	Low
24: Jocity-----	---	---	Low	High	Low
30: San Mateo-----	---	---	Low	High	Low
31: Gobernador-----	---	---	Low	High	Moderate
Orlie-----	---	---	Moderate	High	Low
34: Alcalde-----	---	---	Low	High	High
39: Fruitland-----	---	---	Low	High	Low
40: Pinitos-----	---	---	Moderate	Moderate	Low
Menefee-----	Paralithic bedrock	10-20	Moderate	High	Moderate
Vessilla-----	Lithic bedrock	10-20	Low	High	Low

Table 21.--Soil features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		<u>In.</u>			
42: Walrees-----	Strongly contrasting textural stratification	14-60	Low	High	Low
Abiquiu-----	---	---	Low	High	Low
50: Stout-----	Lithic bedrock	10-20	Low	Low	Low
Kunz-----	---	---	Moderate	Moderate	Low
54: Capillo-----	---	---	Low	Moderate	Low
60: Sparham-----	---	---	Low	High	Low
61: Colomex-----	---	---	Moderate	Moderate	Low
64: Dula-----	---	---	High	High	Low
65: Doslomas-----	---	---	Low	Moderate	Low
66: Encicado-----	---	---	Moderate	Moderate	Low
69: Lindrith-----	---	---	Moderate	High	Low
Royosa-----	---	---	Low	Moderate	Low

Table 21.--Soil features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top <u>In.</u>		Uncoated steel	Concrete
70: Sparham-----	---	---	Low	High	Moderate
80: Orlie-----	---	---	Moderate	High	Low
Nalivag-----	---	---	Moderate	High	Low
102: Menefee-----	Paralithic bedrock	10-20	Moderate	High	Moderate
Nalivag-----	---	---	Moderate	High	Low
103: Orlie-----	---	---	Moderate	High	Low
106: Amal-----	---	---	Moderate	High	Low
107: Berryman-----	---	---	Moderate	High	Low
Ruson-----	---	---	Low	High	Low
108: Peney-----	Lithic bedrock	10-20	Moderate	Moderate	Low
Ransect-----	Lithic bedrock	20-40	Moderate	High	Low
109: Calendar-----	Paralithic bedrock	20-40	Low	High	Low

Table 21.--Soil features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top <u>In.</u>		Uncoated steel	Concrete
110:					
Vessilla-----	Lithic bedrock	10-20	Low	High	Low
Menefee-----	Paralithic bedrock	10-20	Moderate	High	Moderate
Orlie-----	---	---	Moderate	High	Low
113:					
Teromote-----	---	---	Moderate	High	Low
Ruson-----	---	---	Low	High	Low
115:					
Menefee-----	Paralithic bedrock	10-20	Moderate	High	Moderate
117:					
Chamita-----	---	---	High	High	Low
118:					
Hesperus-----	---	---	Moderate	Moderate	Low
Pastorius-----	---	---	Moderate	Moderate	Low
Chamita-----	---	---	High	High	Low
119:					
Roques-----	---	---	Low	High	Low
Nusmag-----	---	---	Low	High	Low
125:					
Hogg-----	---	---	Low	High	Low

Table 21.--Soil features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		<u>In.</u>			
125: Mara-----	---	---	Moderate	High	Low
127: Rombo-----	Paralithic bedrock	20-40	Moderate	High	Low
Wiggler-----	Paralithic bedrock	10-20	Moderate	High	Moderate
129: Nusmag-----	---	---	Low	High	Low
Tottles-----	---	---	High	High	Low
130: Topetaul-----	---	---	Low	Moderate	Low
Hogg-----	---	---	Low	High	Low
132: Stout-----	Lithic bedrock	10-20	Low	Low	Low
Carjo-----	Lithic bedrock	20-40	Moderate	Moderate	Low
Rock outcrop-----	Lithic bedrock	0-0	---	---	---
133: Carrick-----	---	---	Moderate	Moderate	Low
136: Elpedro-----	---	---	Moderate	High	Low
137: Yata-----	---	---	High	Moderate	Low

Table 21.--Soil features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.		Uncoated steel	Concrete
137: Eody-----	---	---	Moderate	Moderate	Low
140: Espiritu-----	---	---	Moderate	Low	Low
Wauquie-----	---	---	Moderate	Moderate	Low
141: Capillo-----	---	---	Low	Moderate	Low
Carjo-----	Lithic bedrock	20-40	Moderate	Moderate	Low
Vamer-----	Lithic bedrock	10-20	Moderate	Moderate	Low
142: Pinavetes-----	---	---	Low	Moderate	Low
145: Dermala-----	---	---	Moderate	Moderate	Low
Rosced-----	---	---	Moderate	Low	Low
146: Parida-----	---	---	Low	Low	Low
Palacid-----	---	---	Low	Moderate	Low
147: Dermala-----	---	---	Moderate	Moderate	Low
Chimayo-----	Lithic bedrock	10-20	Low	Low	Low

Table 21.--Soil features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		<u>In.</u>			
148: Chita-----	---	---	Moderate	Moderate	Low
149: Yarts-----	---	---	Moderate	High	Moderate
151: Razito-----	---	---	Low	Moderate	Low
Fruitland-----	---	---	Low	High	Low
170: Sedillo-----	---	---	Moderate	High	Moderate
173: Oelop-----	---	---	Low	High	Low
180: Oelop-----	---	---	Low	High	Low
182: Oelop-----	---	---	Low	High	Low
190: Sedillo-----	---	---	Moderate	High	Moderate
200: Katlon-----	---	---	High	High	Low
201: Lobat-----	---	---	Moderate	Moderate	Low
Abreu-----	Lithic bedrock	40-60	Moderate	Moderate	Moderate

Table 21.--Soil features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		<u>In.</u>			
203: Nabor-----	---	---	Moderate	High	Low
Elbuck-----	---	---	Moderate	Moderate	Moderate
206: Angostura-----	---	---	Moderate	Moderate	Moderate
Gromes-----	---	---	Moderate	High	Moderate
207: Gromes-----	---	---	Moderate	High	Moderate
Rock outcrop-----	Lithic bedrock	0-0	---	---	---
208: Ess-----	---	---	Moderate	Moderate	Moderate
Croftshaw-----	---	---	Moderate	High	Moderate
209: Crubas-----	---	---	High	High	Moderate
Bywell-----	Strongly contrasting textural stratification	40-60	High	High	Moderate
Croftshaw-----	---	---	Moderate	High	Moderate
210: Rock outcrop-----	Lithic bedrock	0-0	---	---	---
Bracos-----	Lithic bedrock	20-40	Moderate	Moderate	Moderate

Table 21.--Soil features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top In.		Uncoated steel	Concrete
211: Angostura-----	---	---	Moderate	Moderate	Moderate
214: Quimera-----	Lithic bedrock	10-20	Low	High	Low
Vamer-----	Lithic bedrock	10-20	Moderate	Moderate	Low
215: Saragote-----	---	---	High	High	Moderate
Ess-----	---	---	Moderate	Moderate	Moderate
216: Angostura-----	---	---	Moderate	Moderate	Moderate
220: Rock outcrop-----	Lithic bedrock	0-0	---	---	---
Vessilla-----	Lithic bedrock	10-20	Low	High	Low
Menefee-----	Paralithic bedrock	10-20	Moderate	High	Moderate
228: Suposo-----	---	---	Moderate	High	Low
Brycan-----	---	---	Moderate	High	Moderate
230: Badland-----	Paralithic bedrock	0-0	None	High	Low
240: Riverwash, gravelly----	---	---	---	---	---

Table 21.--Soil features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		<u>In.</u>			
241: Florita-----	---	---	Low	High	Low
Rock outcrop-----	Lithic bedrock	0-0	---	---	---
242: Tinaja-----	---	---	Low	Low	Low
Rock outcrop-----	Lithic bedrock	0-0	---	---	---
243: Penistaja-----	---	---	---	High	Low
244: Scholle-----	---	---	Low	High	Low
Silver-----	---	---	Low	High	Low
245: Maia-----	---	---	Moderate	High	Low
Manzano-----	---	---	Moderate	Moderate	Low
246: Pena-----	---	---	Moderate	High	Low
247: Wenota-----	---	---	Low	High	Low
248: Hagerman-----	Lithic bedrock	20-40	Low	High	Low
Silver-----	---	---	Low	High	Low

Table 21.--Soil features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		<u>In.</u>			
249: Losmarios-----	---	---	Low	High	Low
302: Puye-----	Duripan	10-20	Low	High	Low
401: Chiminet-----	Paralithic bedrock	10-20	Low	High	Low
Rock outcrop-----	Lithic bedrock	0-0	---	---	---
407: Totavi-----	---	---	Moderate	Moderate	Low
704: Chrishall-----	---	---	Moderate	High	Low
710: Calaveras-----	---	---	Moderate	Moderate	Moderate
Palon-----	---	---	Low	Low	Moderate
711: Laventana-----	---	---	Moderate	Moderate	Moderate
719: Alanos-----	---	---	Moderate	High	Low
802: Redondo-----	---	---	Moderate	Moderate	Moderate
803: Rusbach-----	---	---	Low	Moderate	Low

Table 21.--Soil features--Continued

Map symbol and soil name	Restrictive layer		Potential for frost action	Risk of corrosion	
	Kind	Depth to top		Uncoated steel	Concrete
		<u>In.</u>			
DAM: Dam-----	---	---	---	---	---
W: Water-----	---	---	---	---	---

Table 22.--Taxonomic classification of the soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Abiquiu-----	Sandy-skeletal, mixed, mesic Typic Ustifluvents
Abreu-----	Loamy-skeletal, mixed Typic Eutroboralfs
Alanos-----	Clayey-skeletal, mixed Typic Eutroboralfs
Alcalde-----	Fine, mixed, calcareous, mesic Vertic Torriorthents
Amal-----	Fine-silty, mixed, mesic Aridic Haplustalfs
Angostura-----	Loamy-skeletal, mixed Typic Cryoboralfs
Berryman-----	Fine-loamy, carbonatic, mesic Aridic Ustochrepts
Bracos-----	Loamy-skeletal, mixed, nonacid Typic Cryorthents
Brycan-----	Fine-loamy, mixed Cumulic Haploborolls
Bywell-----	Loamy-skeletal, mixed Typic Cryaquolls
Calaveras-----	Loamy-skeletal, mixed, frigid Dystric Eutrochrepts
Calendar-----	Fine, mixed, mesic Aridic Ustochrepts
Capillo-----	Fine, mixed Typic Argiborolls
Carjo-----	Fine, mixed Mollic Eutroboralfs
Carrick-----	Fine, mixed Typic Eutroboralfs
Chamita-----	Fine-loamy, mixed, frigid Cumulic Haplaquolls
Chimayo-----	Loamy-skeletal, mixed, nonacid, mesic Lithic Ustorthents
Chiminet-----	Loamy, mixed, nonacid, mesic, shallow Typic Ustorthents
Chita-----	Fine-silty, mixed, mesic Aridic Haplustalfs
Chrishall-----	Coarse-loamy, mixed Pachic Haploborolls
Colomex-----	Loamy-skeletal, mixed Mollic Eutroboralfs
Croftshaw-----	Fine-loamy, mixed Argic Cryoborolls
Crubas-----	Fine, mixed Typic Cryaquolls
Dermala-----	Fine-loamy, mixed, mesic Aridic Haplustalfs
Doslomas-----	Clayey over sandy or sandy-skeletal, mixed Typic Argiborolls
Dula-----	Fine-loamy over sandy or sandy-skeletal, mixed, frigid Cumulic Haplaquolls
Elbuck-----	Fine-loamy, mixed Typic Eutroboralfs
Elpedro-----	Fine-silty, mixed, mesic Aridic Haplustalfs
Encicado-----	Fine, mixed Pachic Udic Argiborolls
Eody-----	Fine, mixed, nonacid Typic Cryorthents
Espiritu-----	Loamy-skeletal, mixed, mesic Aridic Haplustalfs
Ess-----	Loamy-skeletal, mixed Argic Cryoborolls

Table 22.--Taxonomic classification of the soils--Continued

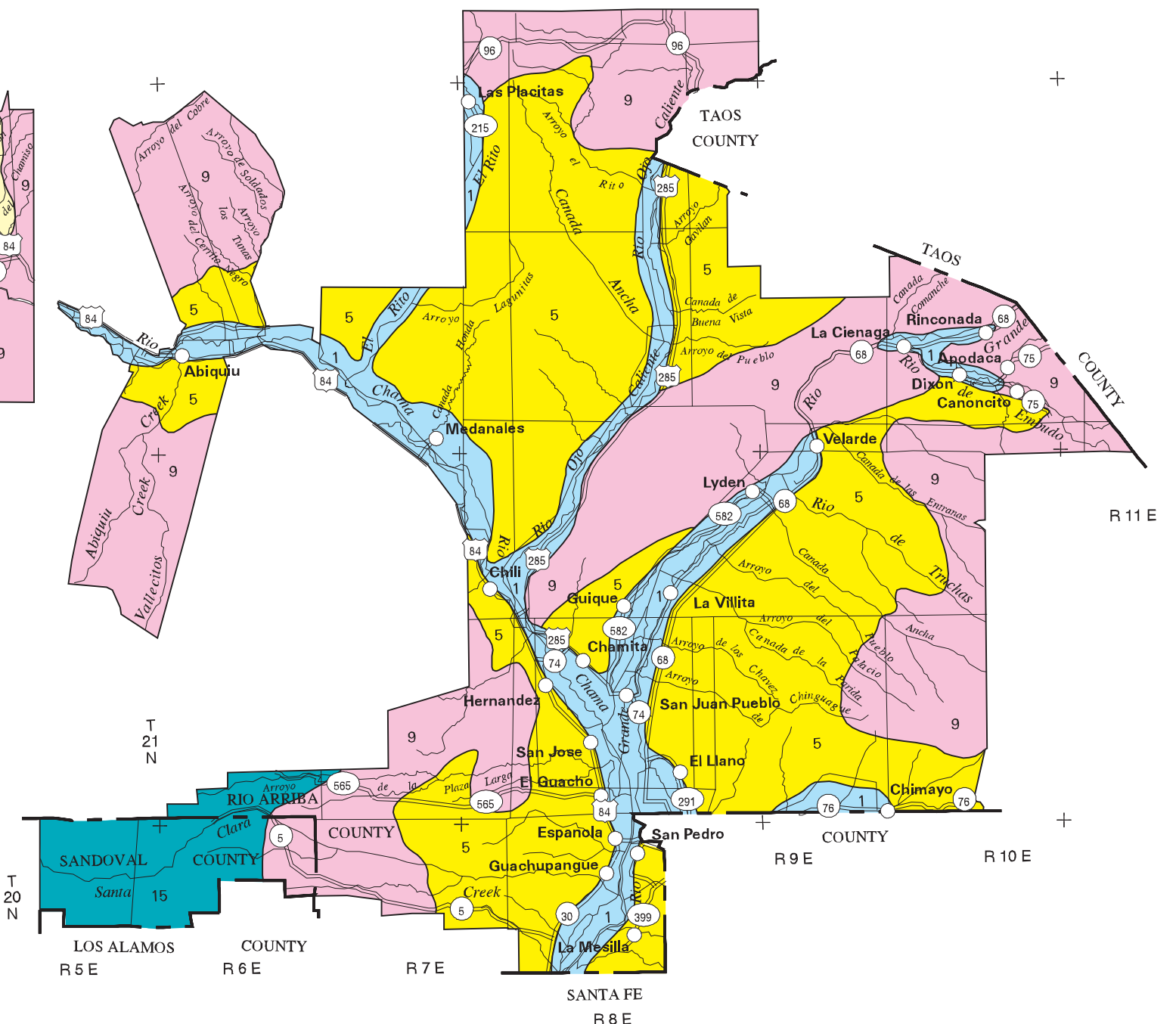
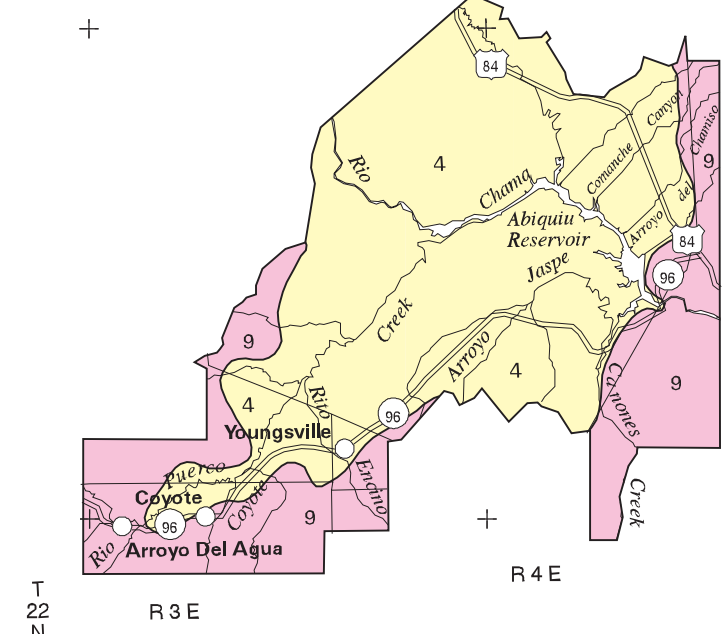
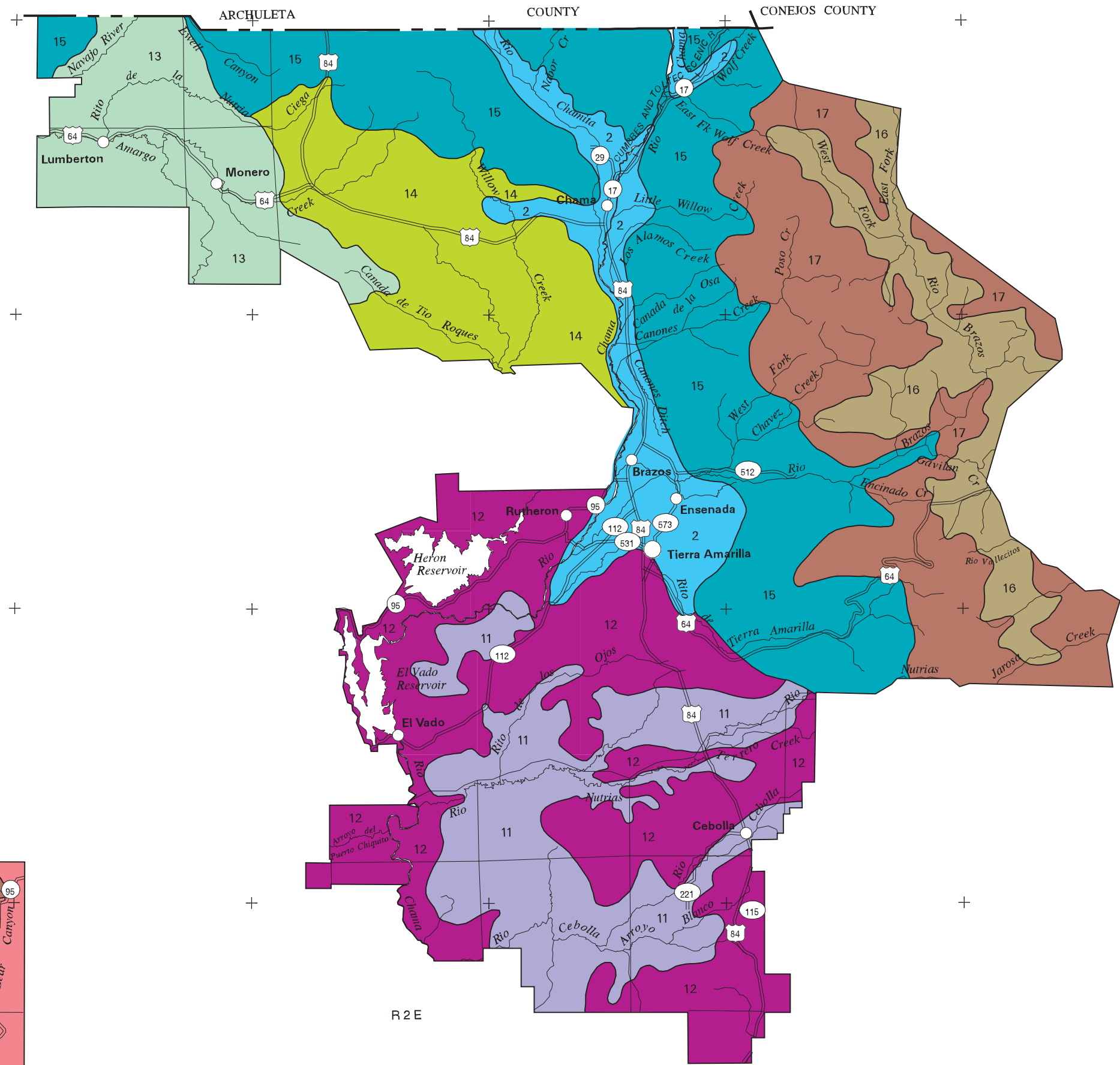
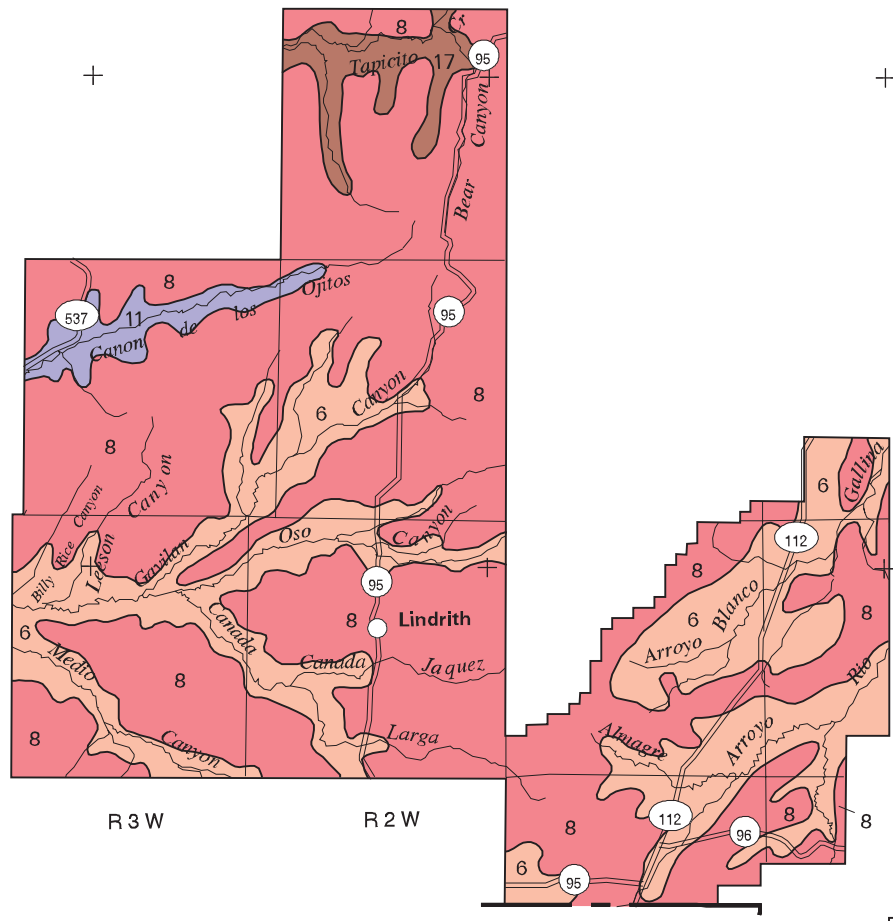
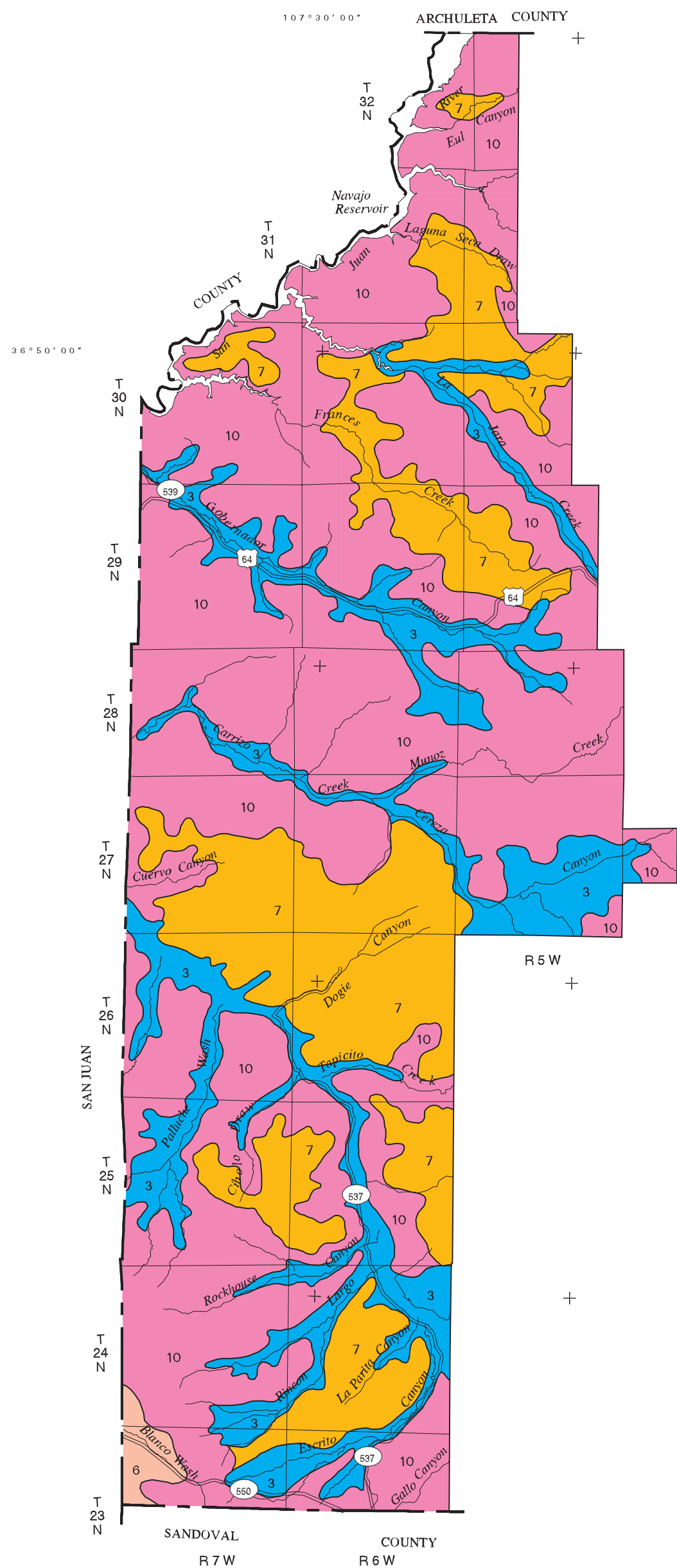
Soil name	Family or higher taxonomic class
Florita-----	Coarse-loamy, mixed, nonacid, mesic Ustic Torriorthents
Fruitland-----	Coarse-loamy, mixed, calcareous, mesic Typic Torriorthents
Gilco-----	Coarse-loamy, mixed, calcareous, mesic Typic Torrifluvents
Gobernador-----	Fine, montmorillonitic, calcareous, mesic Vertic Ustorthents
Gromes-----	Loamy-skeletal, mixed Typic Cryochrepts
Hagerman-----	Fine-loamy, mixed, mesic Ustollic Haplargids
Hesperus-----	Fine-loamy, mixed Pachic Argiborolls
Hogg-----	Fine, mixed Mollic Eutroboralfs
Jocity-----	Fine-loamy, mixed, calcareous, mesic Typic Torrifluvents
Katlon-----	Fine, mixed Argic Cryoborolls
Kunz-----	Fine-loamy, mixed Mollic Eutroboralfs
Laventana-----	Loamy-skeletal, mixed Mollic Eutroboralfs
Lindrith-----	Coarse-loamy, mixed, calcareous, mesic Typic Ustorthents
Lobat-----	Fine-loamy, mixed Mollic Eutroboralfs
Losmarios-----	Fine, mixed, mesic Ustollic Camborthids
Maia-----	Fine-loamy, mixed, mesic Aridic Haplustalfs
Manzano-----	Fine-loamy, mixed, mesic Cumulic Haplustolls
Mara-----	Fine-silty, mixed, frigid Typic Ustochrepts
Menefee-----	Loamy, mixed, calcareous, mesic, shallow Typic Ustorthents
Nabor-----	Fine, mixed Pachic Argiborolls
Nalivag-----	Fine-loamy, mixed, calcareous, mesic Typic Ustorthents
Nusmag-----	Fine, mixed Cumulic Haploborolls
Oelop-----	Fine-loamy, mixed, mesic Ustollic Haplargids
Orlie-----	Fine-loamy, mixed, mesic Aridic Haplustalfs
Palacid-----	Fine-loamy, mixed, mesic Ustollic Haplargids
Palon-----	Loamy-skeletal, mixed Psammentic Eutroboralfs
Parida-----	Coarse-loamy, mixed, mesic Ustollic Camborthids
Pastorius-----	Loamy-skeletal, mixed Pachic Argiborolls
Pena-----	Loamy-skeletal, mixed, mesic Aridic Calciustolls
Peney-----	Loamy, mixed, mesic Lithic Ustochrepts
Penistaja-----	Fine-loamy, mixed, mesic Ustollic Haplargids
Peralta-----	Coarse-loamy, mixed, calcareous, mesic Typic Ustifluvents
Pinavetes-----	Mixed, mesic Ustic Torripsamments
Pinitos-----	Fine-loamy, mixed, mesic Aridic Haplustalfs
Puye-----	Loamy, mixed, mesic, shallow Typic Durochrepts

Table 22.--Taxonomic classification of the soils--Continued

Soil name	Family or higher taxonomic class
Quimera-----	Clayey, mixed, calcareous, frigid Lithic Ustorthents
Ransect-----	Fine-loamy, carbonatic, mesic Aridic Ustochrepts
Razito-----	Mixed, mesic Typic Torripsamments
Redondo-----	Loamy-skeletal, mixed Typic Cryoboralfs
Rombo-----	Fine, mixed, frigid Typic Ustochrepts
Roques-----	Fine, mixed, frigid Typic Ustochrepts
Rosced-----	Loamy-skeletal, mixed, mesic Aridic Ustochrepts
Royosa-----	Mixed, mesic Typic Ustipsamments
Rusbach-----	Sandy-skeletal, mixed Typic Cryorthents
Ruson-----	Fine, mixed, calcareous, mesic Typic Ustorthents
San Mateo-----	Fine-loamy, mixed, calcareous, mesic Ustic Torrifluvents
Saragote-----	Clayey-skeletal, mixed Argiaquic Cryoborolls
Scholle-----	Fine-loamy, mixed, mesic Ustollic Haplargids
Sedillo-----	Loamy-skeletal, mixed, mesic Ustollic Haplargids
Silver-----	Fine, mixed, mesic Ustollic Haplargids
Sparank-----	Fine, mixed, calcareous, mesic Ustic Torrifluvents
Sparham-----	Fine, mixed, calcareous, mesic Typic Ustifluvents
Stout-----	Loamy, mixed, nonacid, frigid Lithic Ustorthents
Suposo-----	Fine, mixed Pachic Argiborolls
Teromote-----	Fine-loamy, mixed, mesic Aridic Ustochrepts
Tinaja-----	Loamy-skeletal, mixed, mesic Aridic Ustochrepts
Topetaul-----	Clayey-skeletal, mixed Mollic Eutroboralfs
Totavi-----	Ashy, frigid Mollic Vitrandepts
Tottles-----	Fine, mixed, calcareous, frigid Cumulic Haplaquolls
Vamer-----	Clayey, mixed Lithic Eutroboralfs
Vessilla-----	Loamy, mixed, calcareous, mesic Lithic Ustorthents
Walrees-----	Fine-loamy over sandy or sandy-skeletal, mixed, calcareous, mesic Aquic Ustifluvents
Wauquie-----	Loamy-skeletal, mixed, mesic Aridic Haplustalfs
Wenota-----	Fine, mixed, calcareous, mesic Ustic Torrifluvents
Werlog-----	Fine-loamy, mixed, calcareous, mesic Aquic Ustifluvents
Wiggler-----	Loamy, mixed, calcareous, frigid, shallow Typic Ustorthents
Yarts-----	Coarse-loamy, mixed, calcareous, mesic Ustic Torriorthents
Yata-----	Clayey-skeletal, mixed Argic Pachic Cryoborolls

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LEGEND

- Soils on alluvial fans, stream terraces, and flood plains
- 1 Fruitland-Abiquiu-Jocity
Dry, very deep, somewhat poorly drained and well drained, nearly level to gently sloping, moderately coarse to medium textured soils on alluvial fans and flood plains.
- 2 Chamita-Roques-Carrick
Cool and moist, very deep, poorly drained to well drained, nearly level to moderately sloping, medium to fine textured soils on alluvial fans, stream terraces, and flood plains.
- 3 San Mateo-Sparank-Pinavetes
Dry, very deep, moderately well drained to well drained, nearly level to strongly sloping, coarse to fine textured soils on dunes and flood plains.
- Arid Soils on Hills and Valleys
- 4 Silver-Scholle-Losmarinos
Dry, very deep, well drained, nearly level to steeply sloping, moderately fine to fine textured soils on stream terraces and alluvial fans.
- 5 Florita-Pinavetes-Palacid
Dry, very deep, well drained to excessively drained, nearly level to steeply sloping, coarse to moderately fine textured soils on hills and dunes.
- Semi-arid Soils on Uplands and Valleys
- 6 Orlie-Sparham-Nalivag
Moist, very deep, well drained, nearly level to strongly sloping, medium to fine textured soils on fan remnants and flood plains.

- 7 Orlie-Vessilla
Moist, very deep and shallow, well drained, nearly level to steep, medium to moderately coarse textured soils on mesa summits, hills, and fan remnants.
- 8 Pinitos-Menefee-Badland
Moist, very deep and shallow, well drained, nearly level to steep, medium to moderately fine textured soils and badland on hills.
- 9 Dermala-Tinaja-Chita
Moist, very deep, well drained, nearly level to very steep, medium to moderately fine textured soils on hills, mesa summits and escarpments.
- 10 Vessilla-Menefee-Rock outcrop
Moist, shallow, well drained, nearly level to steep, moderately coarse to moderately fine textured soils on hills, breaks, and mesa escarpments.
- 11 Berryman-Elpedro-Ruson
Moist, very deep, well drained, nearly level to strongly sloping, moderately fine and fine textured soils on alluvial fans, hills, and stream terraces.
- 12 Calendar-Menefee-Amal
Moist, shallow to very deep, well drained, gently sloping to steep, moderately fine and fine textured soils on hills and plateaus
- Cool, Semi-arid and Subhumid Soils on Uplands and Valleys
- 13 Capillo-Vamer-Suposo
Cool and moist, shallow and very deep, well drained, nearly level to steep, moderately fine and fine textured soils on stream terraces, hills, and breaks.

- 14 Rombo-Hogg-Nusmag
Cool and moist, moderately deep and very deep, moderately well drained and well drained, nearly level to moderately steep, fine textured soils on stream terraces, hills, and cuestas.
- 15 Nabor-Lobat-Abreu
Cool and moist, very deep, well drained, strongly sloping to very steep, moderately fine and fine textured soils on mountain slopes.
- Cold, Subhumid Soils on High Mountains and Valleys
- 16 Ess-Croftshav-Crubas
Cold and moist, very deep, well drained and poorly drained, nearly level to moderately steep, medium to fine textured soils on mountain slopes and stream terraces.
- 17 Angostura-Saragote
Cold and moist, very deep, somewhat poorly drained to well drained, gently sloping to steep, medium to fine textured soils on mountain slopes.

SECTIONALIZED TOWNSHIP											
6	5	4	3	2	1						
7	8	9	10	11	12						
18	17	16	15	14	13						
19	20	21	22	23	24						
30	29	28	27	26	25						
31	32	33	34	35	36						

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
NEW MEXICO AGRICULTURAL EXPERIMENT STATION

GENERAL SOIL MAP
RIO ARRIBA AREA, NEW MEXICO
PARTS OF
RIO ARRIBA AND SANDOVAL COUNTIES

1 0 1 2 3
MILES

1 0 1 2 3 4 5 6
KILOMETERS

SCALE = 1:285000



SECTIONALIZED TOWNSHIP

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36



INDEX TO MAP SHEETS
RIO ARRIBA AREA, NEW MEXICO
PARTS OF
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1 0 1 2 3
MILES

1 0 1 2 3 4 5 6
KILOMETERS

SCALE = 1:285000

CONVENTIONAL AND SPECIAL SYMBOLS LEGEND

				CULTURAL FEATURES		SPECIAL SYMBOLS FOR SOIL SURVEY	
SYMBOL	NAME	SYMBOL	NAME	BOUNDARIES	MISCELLANEOUS CULTURAL FEATURES	SOIL DELINEATIONS AND SYMBOLS	
9	Pinavetes-Florita complex, 2 to 10 percent slopes	142	Pinavetes loamy sand, 3 to 12 percent slopes	National, state, or province	Farmstead, house (omit in urban area) (occupied)	ESCARPMENTS	
10	Sparank-San Mateo silt loams, saline, sodic, 0 to 3 percent slopes	145	Dermala-Rosced complex, 20 to 50 percent slopes	County or parish	Church	Bedrock (points down slope)	
11	Fruitland sandy loam, 0 to 3 percent slopes	146	Parida-Palacid very gravelly sandy loams, 10 to 40 percent slopes	Minor civil division	School	Other than bedrock (points down slope)	
12	Pinavetes loamy sand, 0 to 3 percent slopes	147	Dermala-Chimayo complex, 20 to 50 percent slopes	Reservation (national forest or park, state forest or park, and large airport)	Indian mound (label)	SHORT STEEP SLOPE	
18	Abiquiu-Peralta complex, 0 to 3 percent slopes	148	Chita loam, 0 to 5 percent slopes	Land grant	Located object (label)	GULLY	
20	Menefee-Vessilla-Rock outcrop complex, 5 to 35 percent slopes	149	Yarts sandy loam, 1 to 4 percent slopes	Limit of soil survey (label)	Tank (label)	DEPRESSION OR SINK	
21	Werlog clay loam, 0 to 1 percent slopes	151	Razito-Fruitland complex, 1 to 5 percent slopes	Field sheet matchline and neatline	Wells, oil or gas	SOIL SAMPLE (normally not shown)	
22	Jocity-Gilco complex, 1 to 3 percent slopes	170	Sedillo cobbly loam, 0 to 5 percent slopes	AD HOC BOUNDARY (label)	Windmill	MISCELLANEOUS	
23	Gilco sandy clay loam, 0 to 3 percent slopes	173	Oelop fine sandy loam, 1 to 5 percent slopes	Small airport, airfield, park, oilfield, cemetery, or flood pool	Kitchen midden	Blowout	
24	Jocity sandy clay loam, 0 to 1 percent slopes	180	Oelop loam, 0 to 5 percent slopes	STATE COORDINATE TICK 1 890 000 FEET		Clay spot	
30	San Mateo sandy loam, 0 to 3 percent slopes	182	Oelop sandy loam, 5 to 9 percent slopes	LAND DIVISION CORNER (sections and land grants)		Gravelly spot	
31	Gobernador-Orlie association, 0 to 8 percent slopes	190	Sedillo loam, 0 to 3 percent slopes			Gumbo, slick or scabby spot (sodic)	
34	Alcalde clay, 0 to 3 percent slopes	200	Katlon silt loam, 25 to 45 percent slopes			Dumps and other similar non soil areas	
39	Fruitland sandy loam, 3 to 5 percent slopes	201	Lobat-Abreu gravelly loams, 15 to 60 percent slopes			Prominent hill or peak	
40	Pinitos-Menefee-Vessilla complex, 2 to 20 percent slopes	203	Nabor-Elbeth complex, 5 to 35 percent slopes			Rock outcrop (includes sandstone and shale)	
42	Walrees-Abiquiu complex, 0 to 2 percent slopes	206	Angostura-Gromes complex, 15 to 35 percent slopes			Saline spot	
50	Stout-Kunz sandy loams, 5 to 15 percent slopes	207	Gromes-Rock outcrop complex, 15 to 40 percent slopes			Sandy spot	
54	Capillo silt loam, 0 to 8 percent slopes	208	Ess-Croftshaw complex, 3 to 20 percent slopes			Severely eroded spot	
60	Sparham clay loam, 0 to 3 percent slopes	209	Crubas-Bywell-Croftshaw complex, 0 to 15 percent slopes			Slide or slip (tips point upslope)	
61	Colomex gravelly silt loam, 0 to 3 percent slopes	210	Rock outcrop-Bracos complex, 40 to 80 percent slopes			Stony spot, very stony spot	
64	Dula loam, 0 to 2 percent slopes	211	Angostura very cobbly loam, 15 to 40 percent slopes				
65	Doslomas loam, 0 to 3 percent slopes	214	Quimera-Vamer very channery clay loams, 10 to 35 percent slopes				
66	Encicado silty clay loam, 0 to 3 percent slopes	215	Saragote-Ess complex, 2 to 8 percent slopes				
69	Lindrieth-Royosa complex, 2 to 7 percent slopes	216	Angostura very cobbly sandy loam, 15 to 45 percent slopes				
70	Sparham clay loam, saline, sodic, 0 to 3 percent slopes	220	Rock outcrop-Vessilla-Menefee complex, 15 to 45 percent slopes				
80	Orlie-Nalivag loams, 2 to 8 percent slopes	228	Suposo-Brycan complex, 1 to 6 percent slopes				
102	Menefee-Nalivag complex, 8 to 25 percent slopes	230	Badland				
103	Orlie fine sandy loam, 1 to 8 percent slopes	240	Riverwash				
106	Amal silt loam, 2 to 8 percent slopes	241	Florita-Rock outcrop complex, 15 to 45 percent slopes				
107	Berryman-Ruson association, 1 to 8 percent slopes	242	Tinaja-Rock outcrop complex, 45 to 75 percent slopes				
108	Peney-Ransect association, 1 to 20 percent slopes	243	Penistaja fine sandy loam, 2 to 8 percent slopes				
109	Calendar gravelly loam, 5 to 35 percent slopes	244	Scholle-Silver loams, 1 to 5 percent slopes				
110	Vessilla-Menefee-Orlie complex, 1 to 30 percent slopes	245	Maia-Manzano complex, 0 to 5 percent slopes				
113	Teromote-Ruson association, 1 to 8 percent slopes	246	Pena gravelly sandy loam, 2 to 15 percent slopes				
115	Menefee channery loam, 2 to 35 percent slopes	247	Wenota silty clay loam, 1 to 6 percent slopes				
117	Chamita loam, 0 to 3 percent slopes	248	Hagerman-Silver fine sandy loams, 2 to 7 percent slopes				
118	Hesperus-Pastorius-Chamita complex, 1 to 5 percent slopes	249	Losmarios extremely cobbly sandy clay loam, 10 to 35 percent slopes				
119	Roques-Nusmag clay loams, 1 to 8 percent slopes	302	Puye gravelly sandy loam, 3 to 15 percent slopes				
125	Hogg-Mara loams, 2 to 12 percent slopes	401	Chiminet-Rock outcrop association, 5 to 40 percent slopes				
127	Rombo-Wiggler complex, 5 to 25 percent slopes	407	Totavi gravelly loam, 1 to 8 percent slopes				
129	Nusmag-Tottles clay loams, 0 to 3 percent slopes	704	Chrishall gravelly loam, 1 to 15 percent slopes				
130	Topetaul-Hogg complex, 3 to 25 percent slopes	710	Calaveras-Sabe very gravelly sandy loams, 40 to 80 percent slopes				
132	Stout-Rock outcrop-Carjo complex, 5 to 20 percent slopes	711	Laventana cobbly loam, 15 to 40 percent slopes				
133	Carrick silt loam, 1 to 4 percent slopes	719	Alanos very cobbly loam, 15 to 50 percent slopes				
136	Elpedro silt loam, 1 to 5 percent slopes	802	Redondo gravelly sandy clay loam, 5 to 25 percent slopes				
137	Yata-Eody loams, 50 to 80 percent slopes	803	Rusbach cobbly sandy loam, 40 to 80 percent slopes				
140	Espiritu-Wauquie association, 35 to 60 percent slopes	DAM	Dam				
141	Capillo-Carjo-Vamer complex, 3 to 25 percent slopes	W	Water				

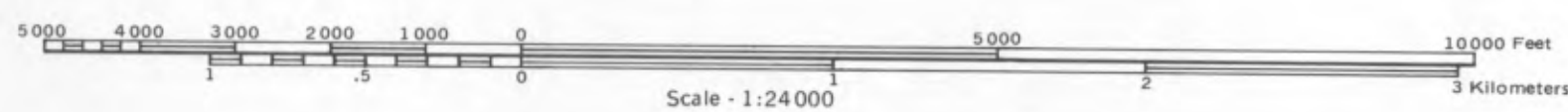


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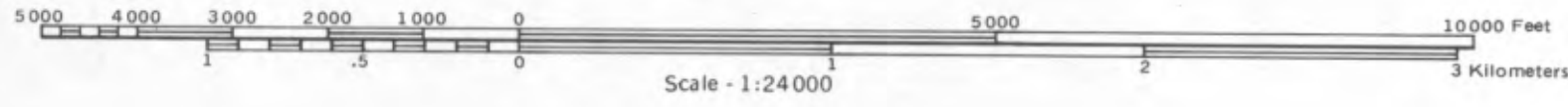


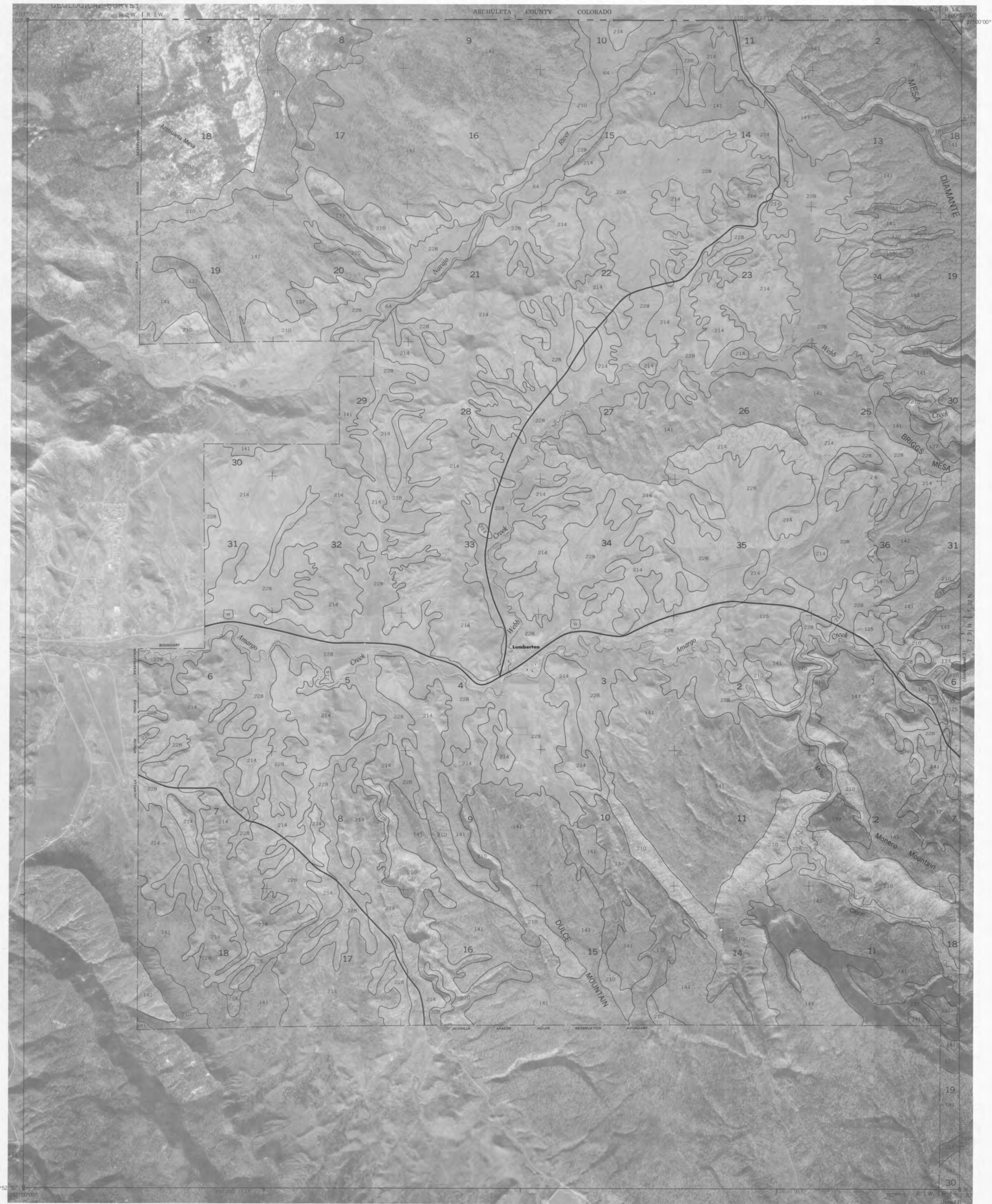
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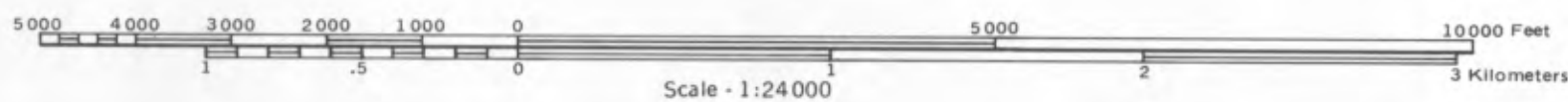


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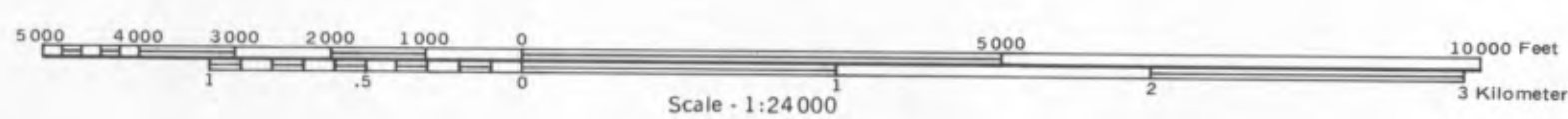
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5000 4000 3000 2000 1000 0 5000 10000 Feet
1 1.5 2 3 Kilometers
Scale - 1:24,000

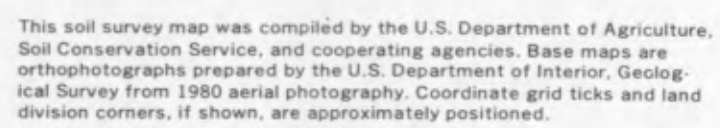




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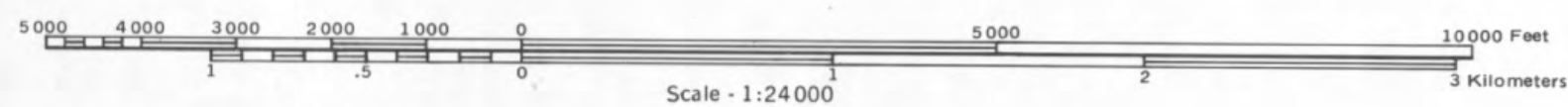






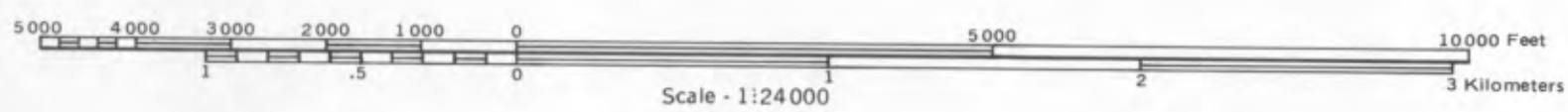


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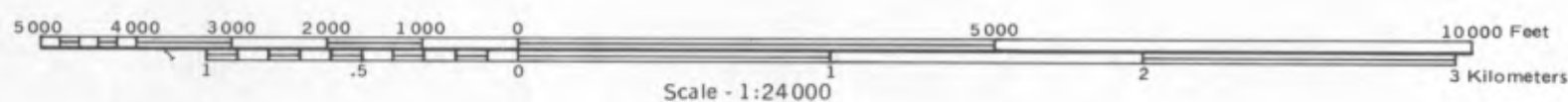


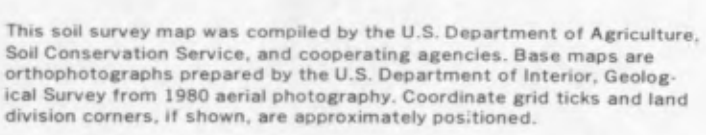
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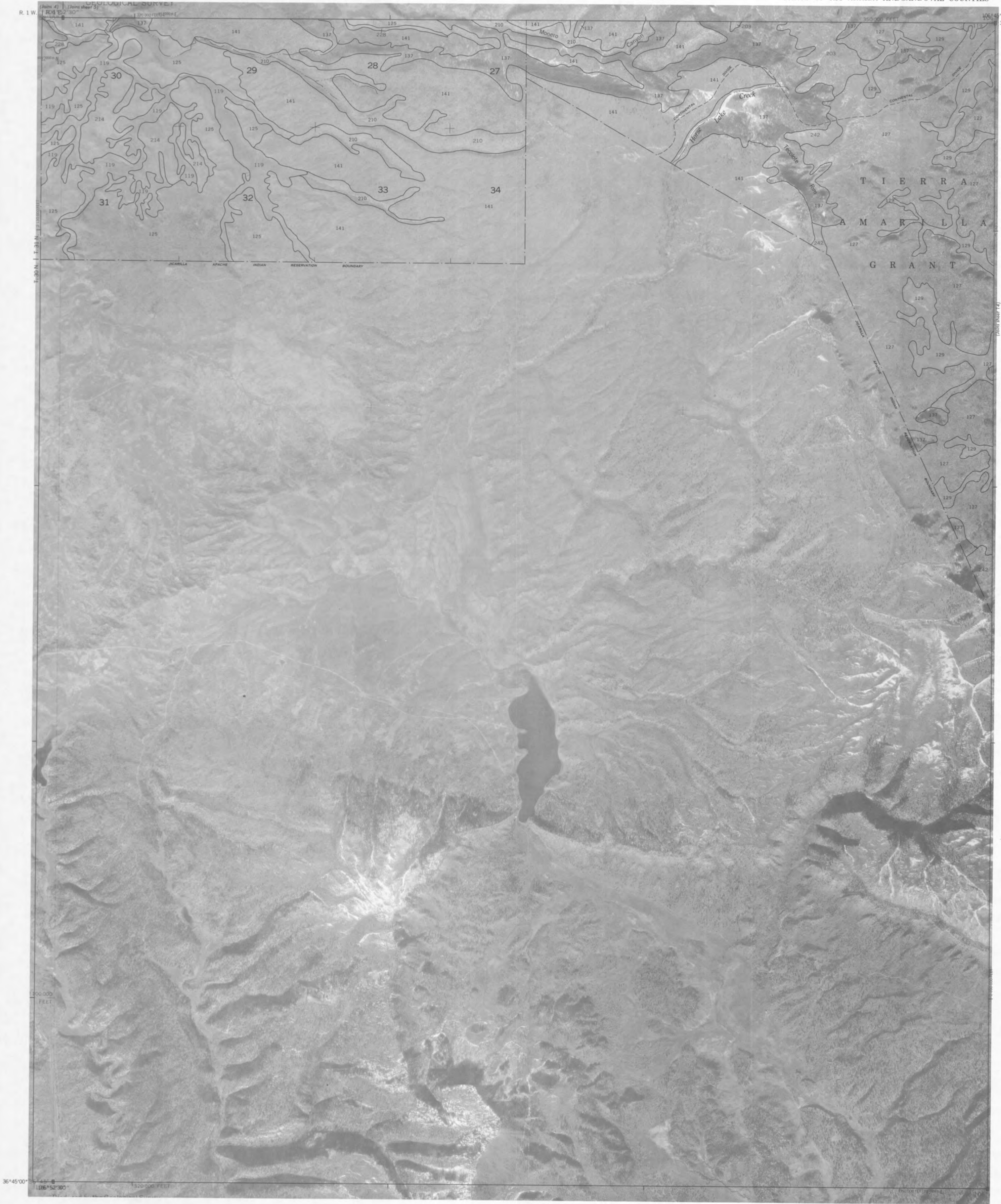




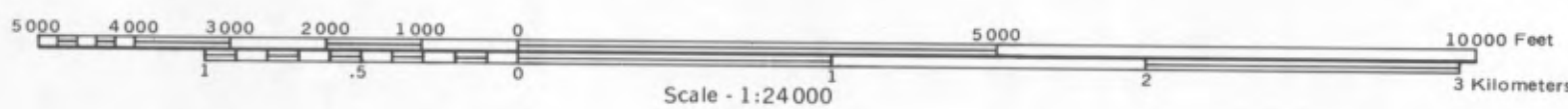
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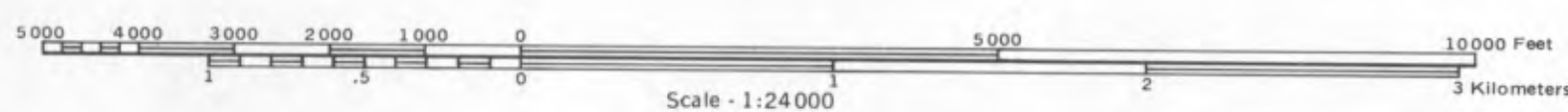


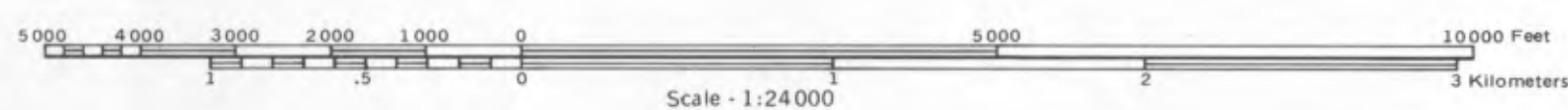
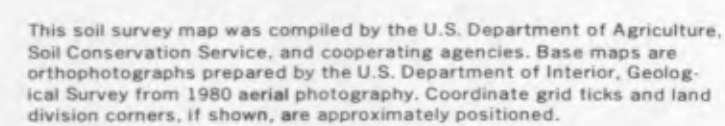
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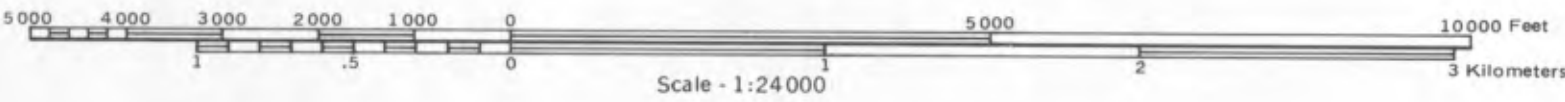
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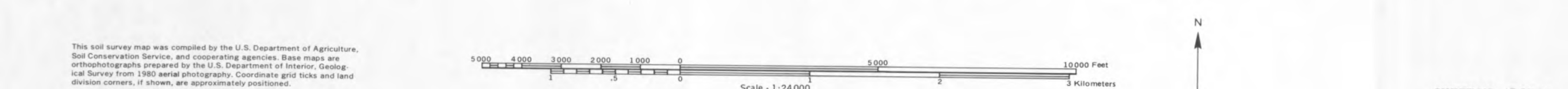






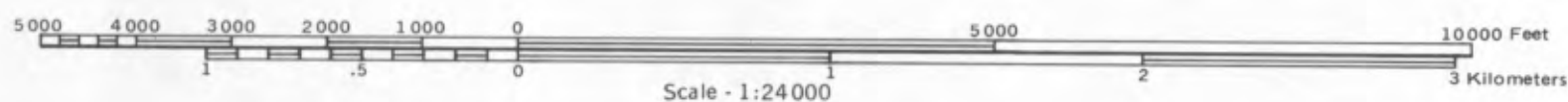
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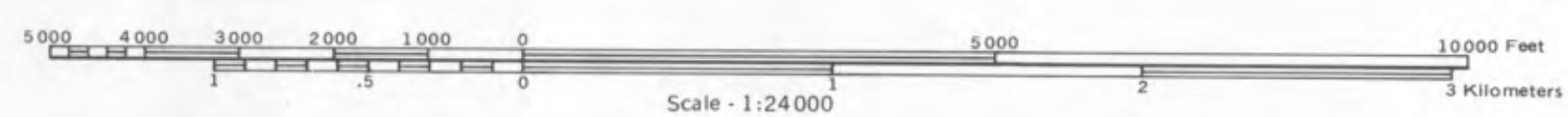
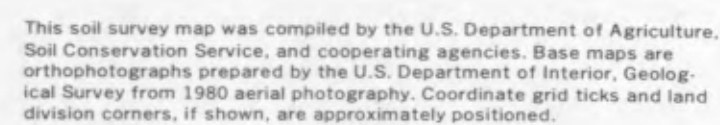






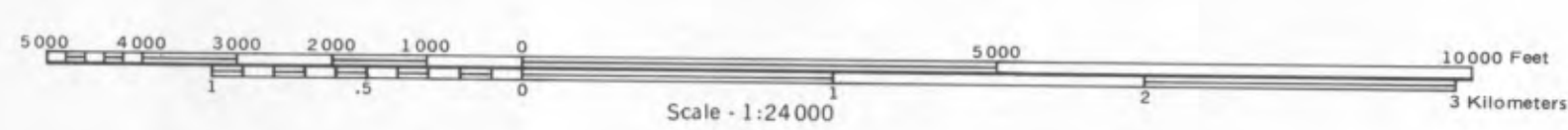
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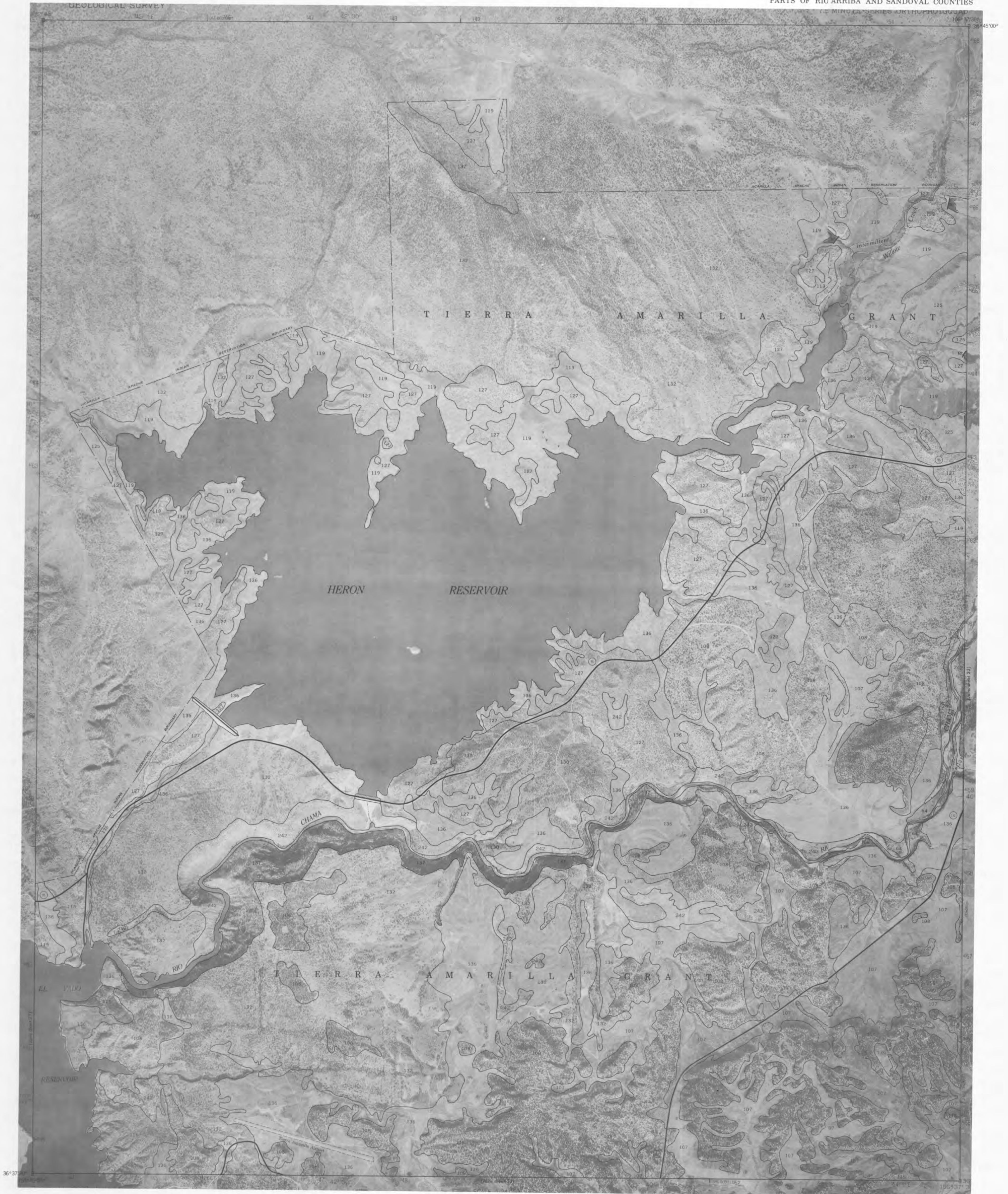
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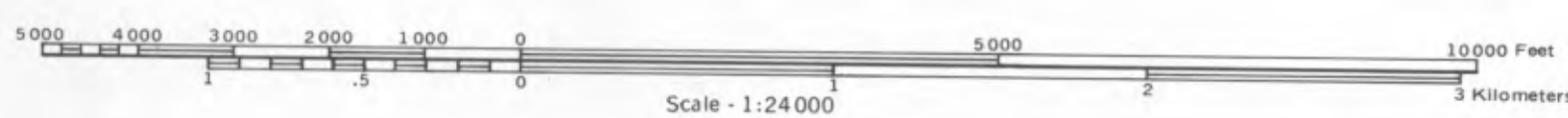


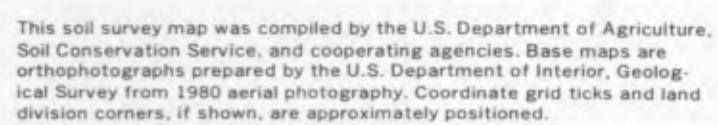
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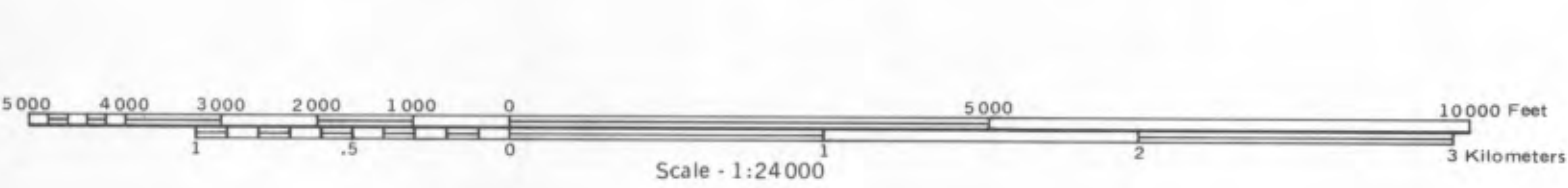
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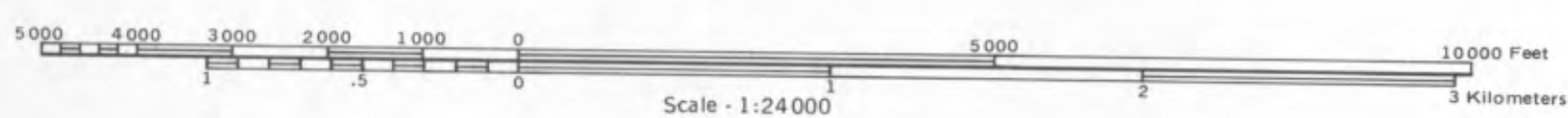


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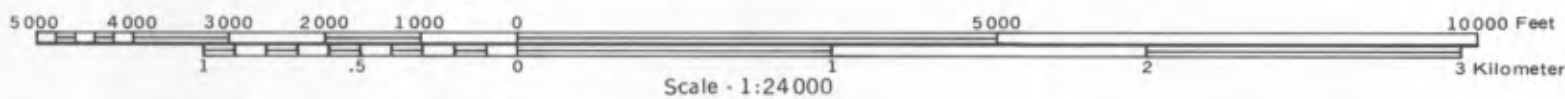


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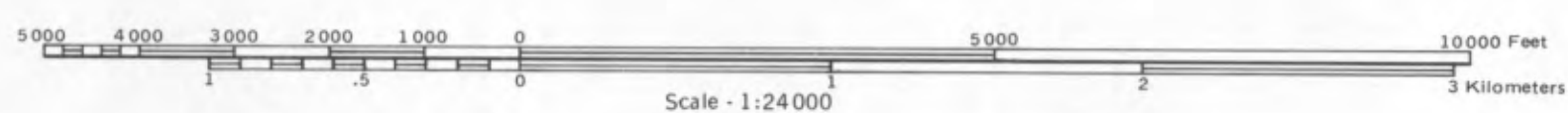


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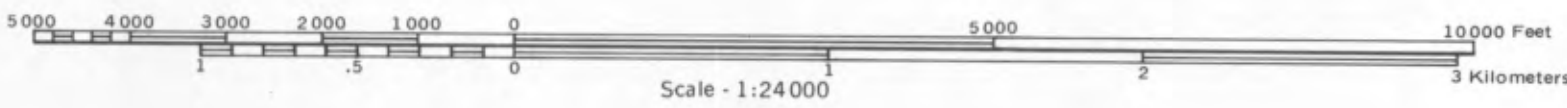


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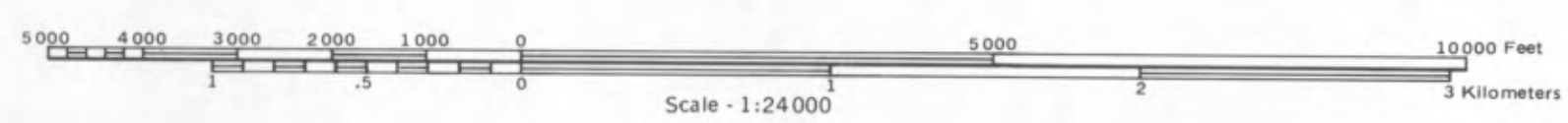


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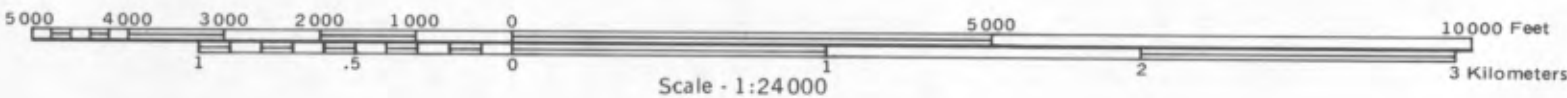


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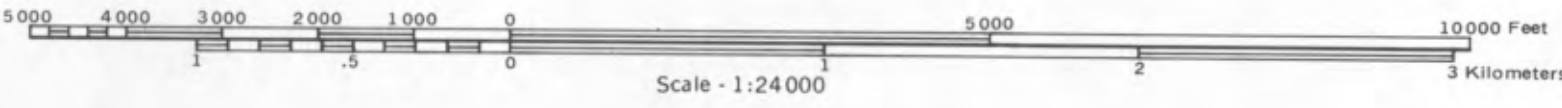


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5000 4000 3000 2000 1000 0 5000 10000 Feet
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100
Scale: 1:24,000
3 Kilometers







This soil survey map was compiled by the U.S. Department of Agriculture, Soil Conservation Service, and cooperating agencies. Base maps are orthophotographs prepared by the U.S. Department of Interior, Geological Survey from 1960 aerial photography. Coordinate grid ticks and land division corners, if shown, are approximately positioned.

5000 4000 3000 2000 1000 0 5000 10000 Feet
Scale 1:24000 3 Kilometers







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5000 4000 3000 2000 1000 0 5000 10000 Feet
1 1.5 2 3 Kilometers
Scale: 1:24,000





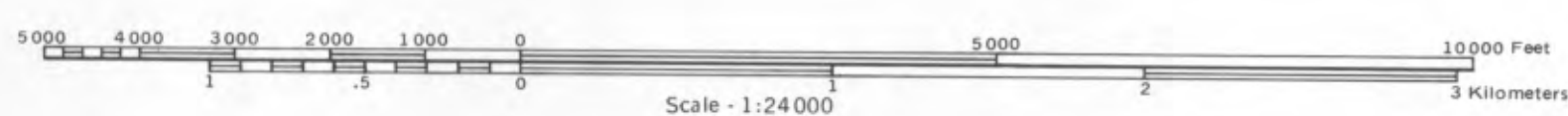
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5000 4000 3000 2000 1000 0 5000 10000 Feet
1 1.5 2 3 Kilometers
Scale - 1:24000



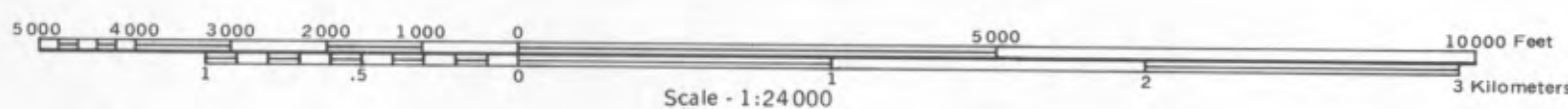


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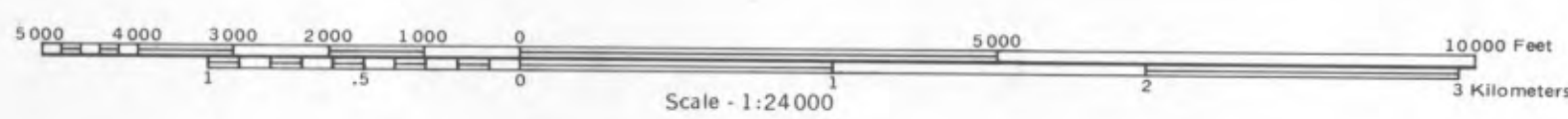


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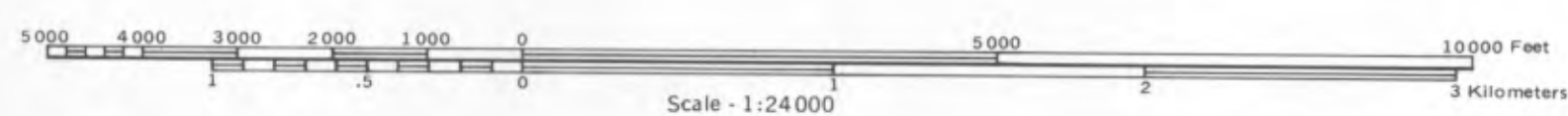


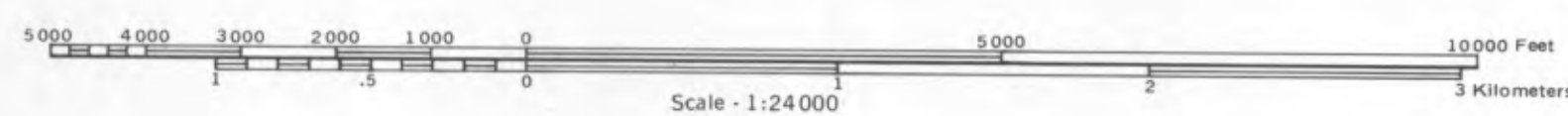
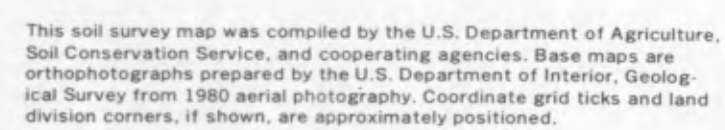
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5000 4000 3000 2000 1000 0 5000 10000 Feet

1 .5 0 1 2 3 Kilometers

Scale - 1:24000

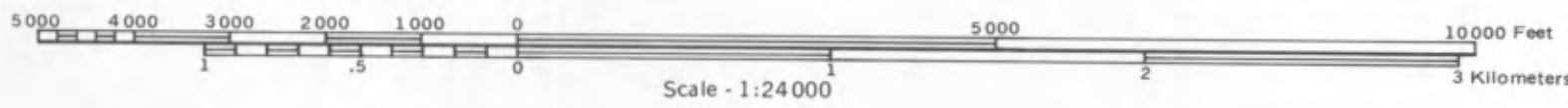


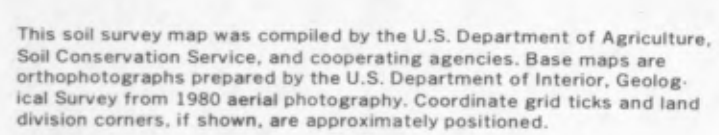


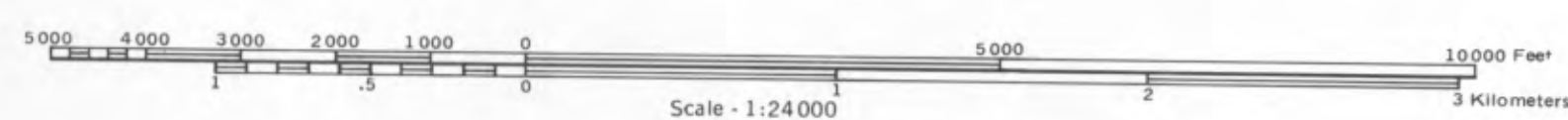
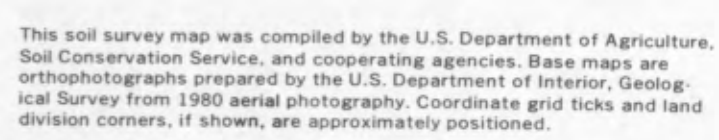




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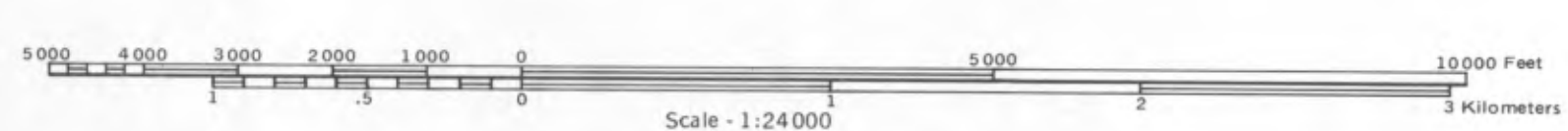








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5000 4000 3000 2000 1000 0 5000 10000 Feet
1 1.5 2 3 Kilometers
Scale - 1:24000





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5000 4000 3000 2000 1000 0 5000 10000 Feet
1 1.5 2 3 Kilometers
Scale - 1:24,000





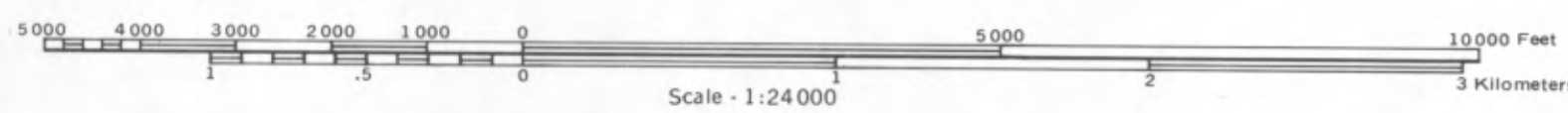
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5000 4000 3000 2000 1000 0 5000 10000 Feet
1 2 3 4 5 6 7 8 9 10 Kilometers
Scale - 1:24000



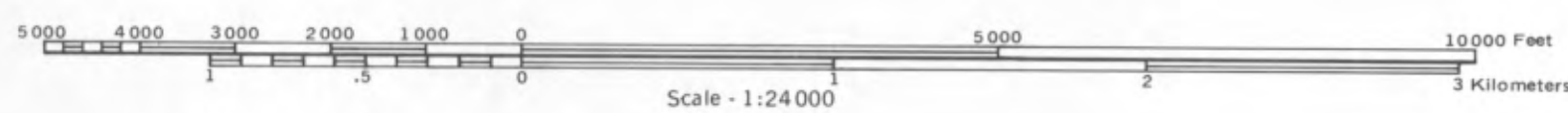


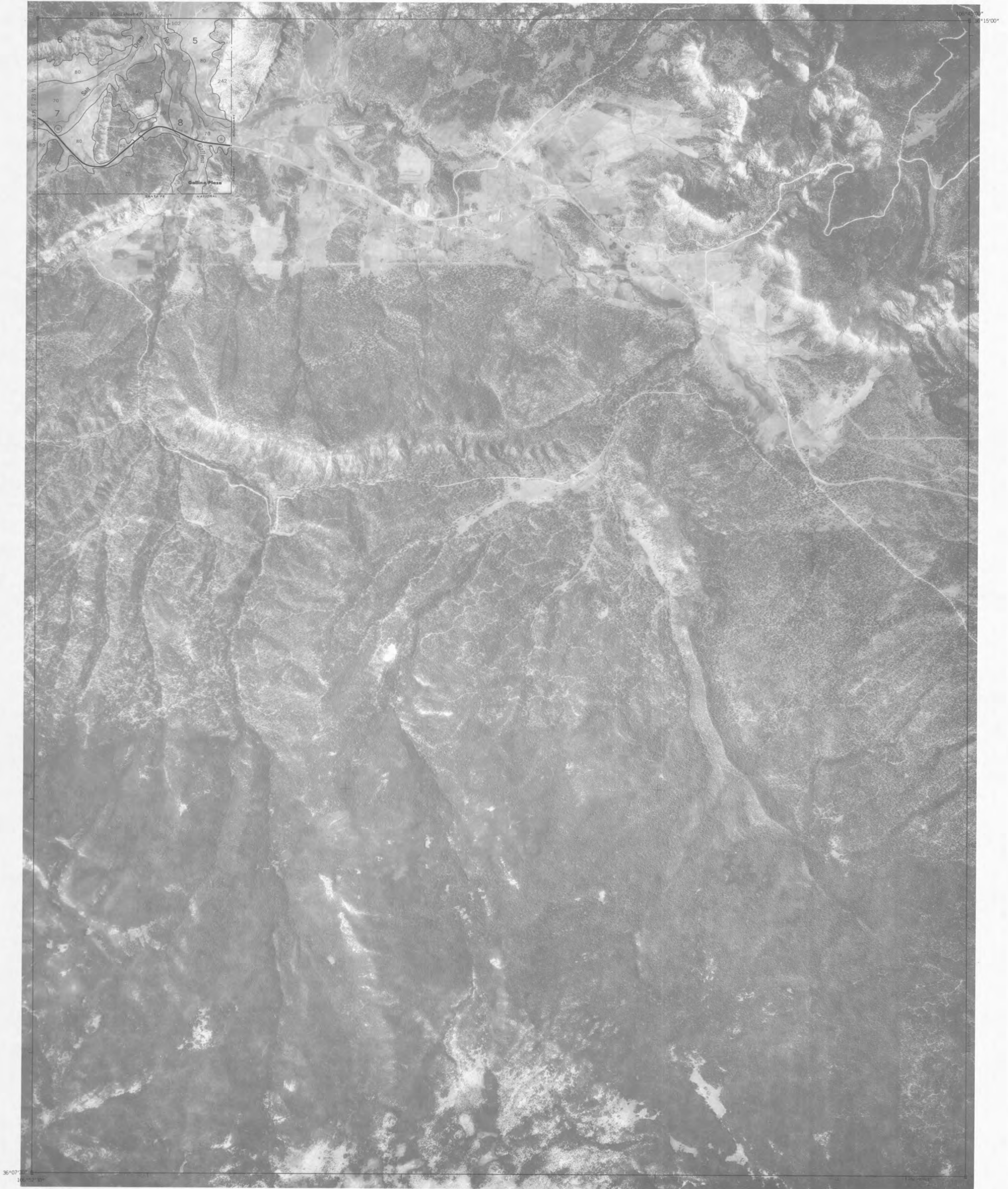
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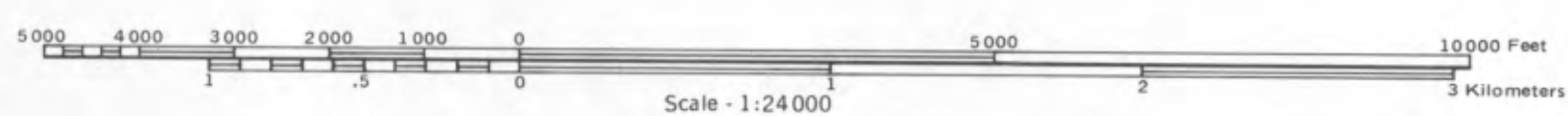


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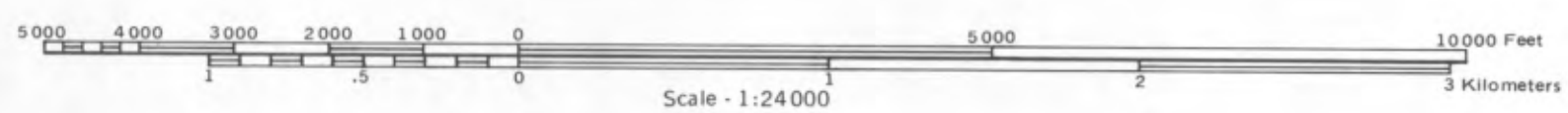


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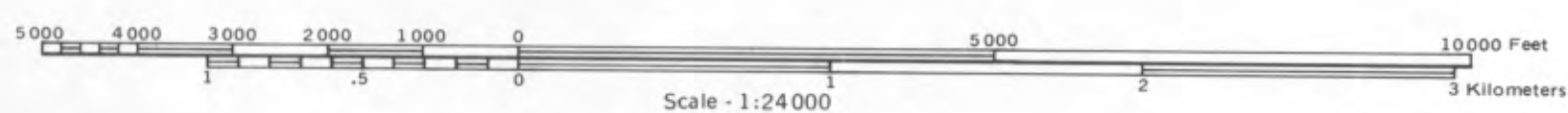


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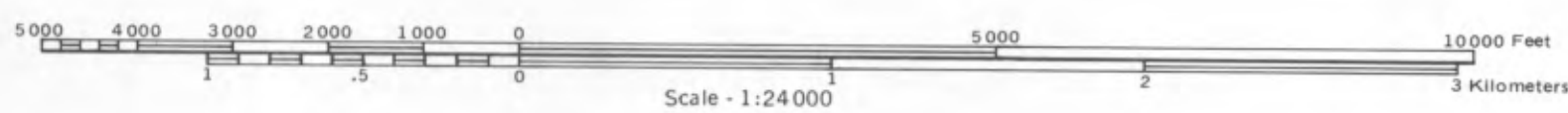


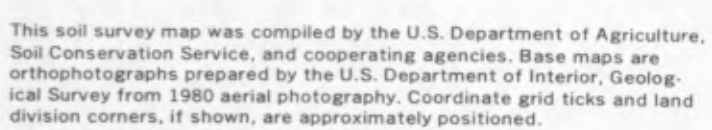
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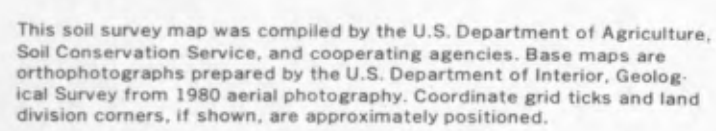


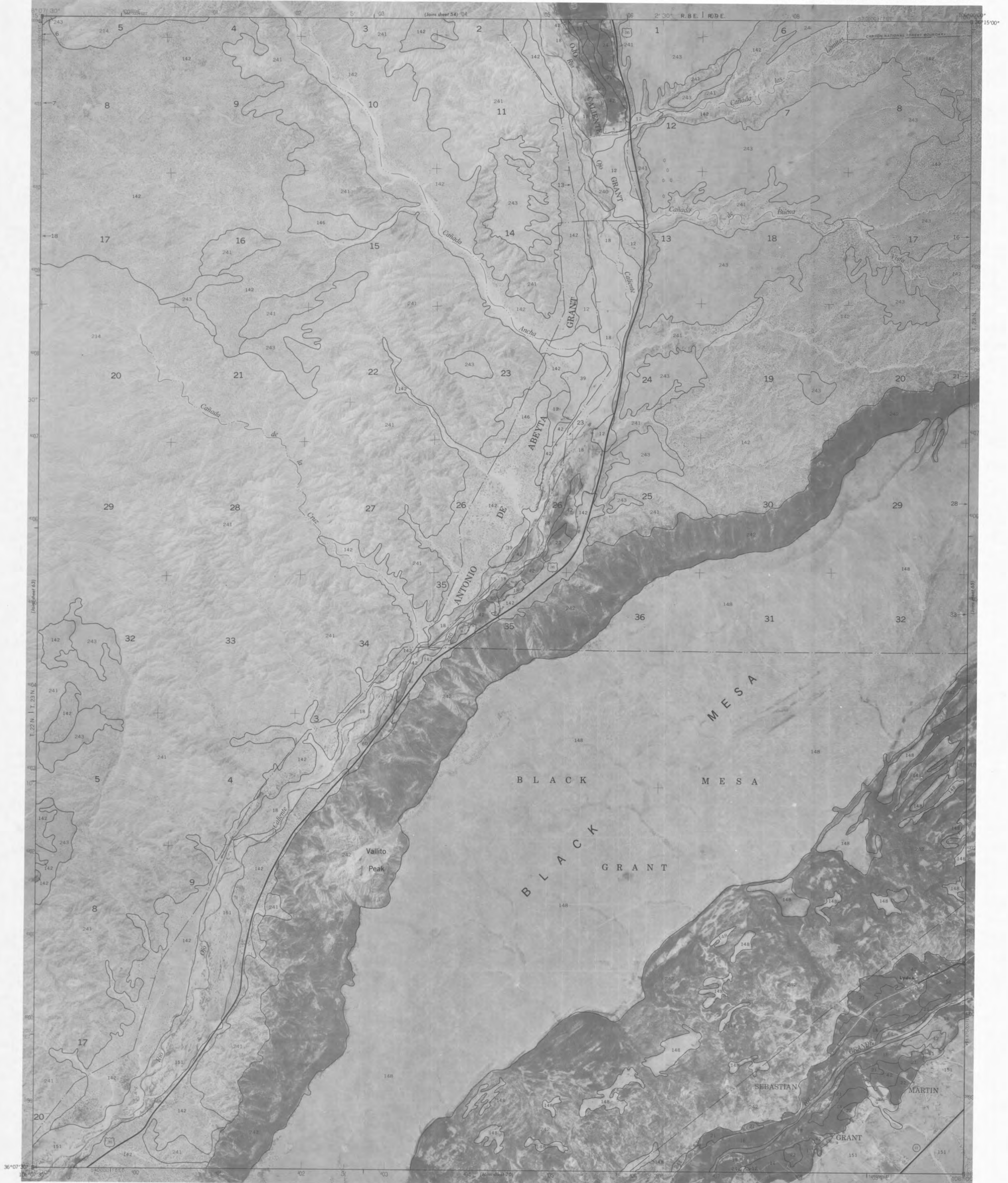


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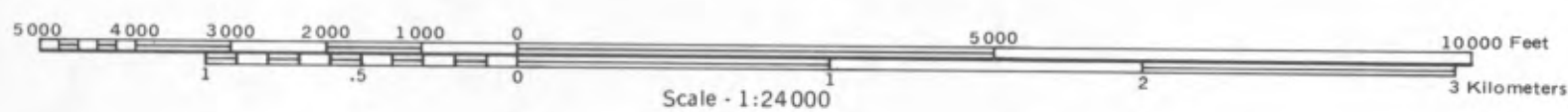


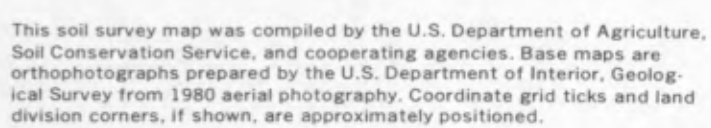






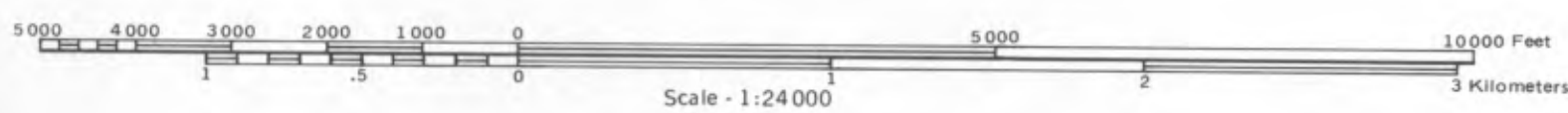
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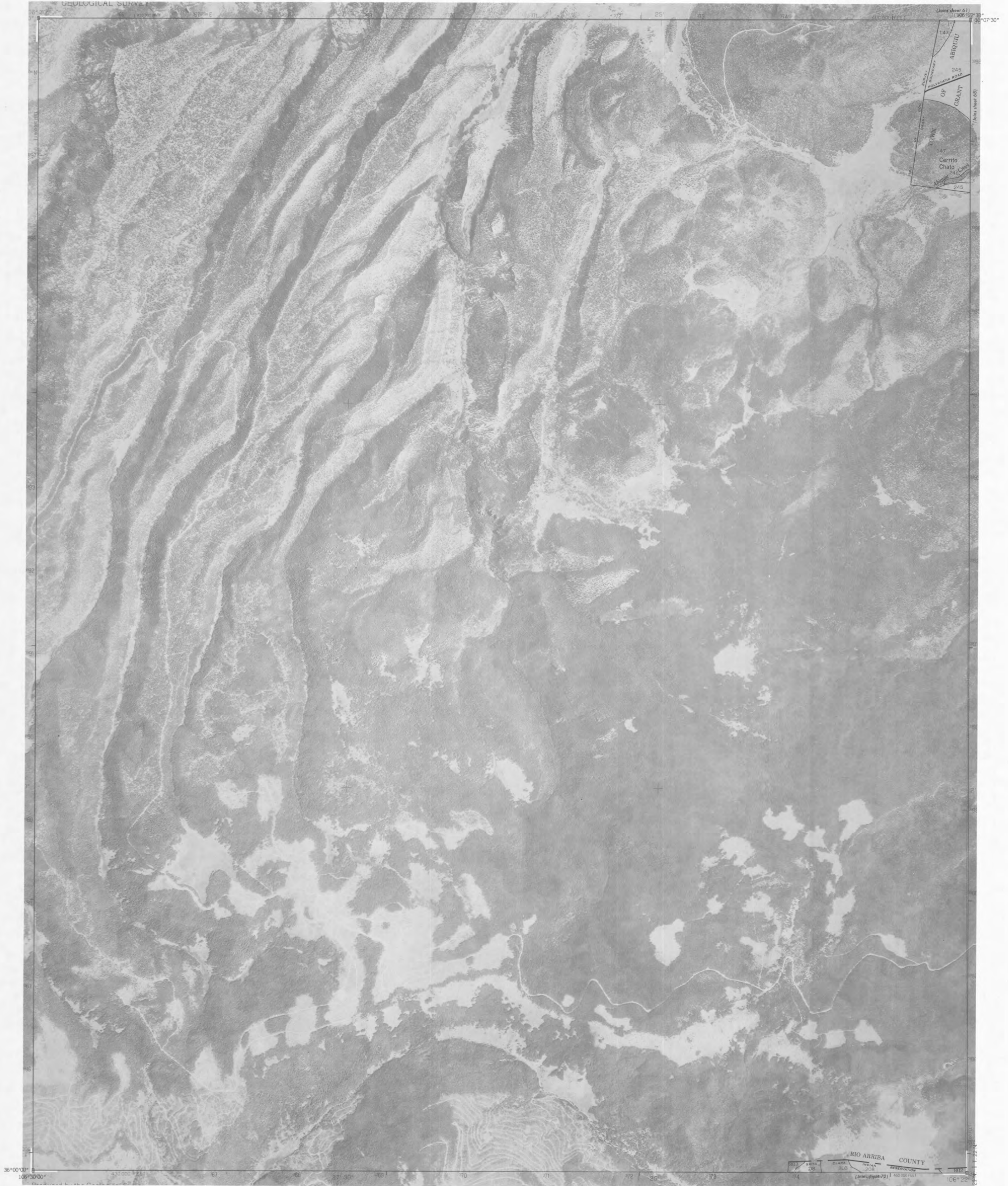




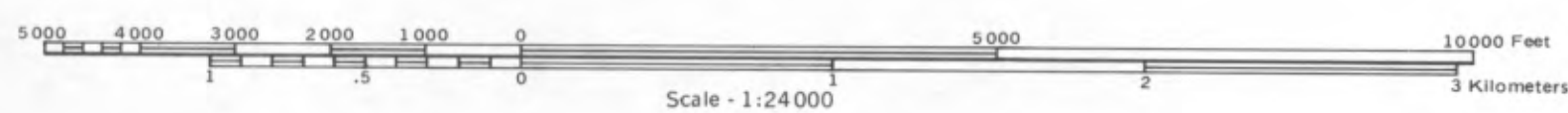


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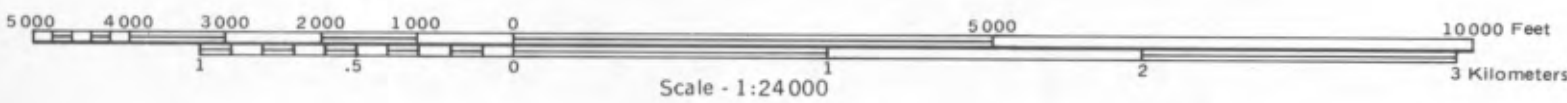


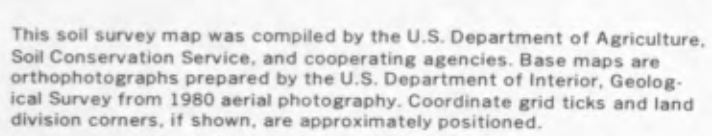
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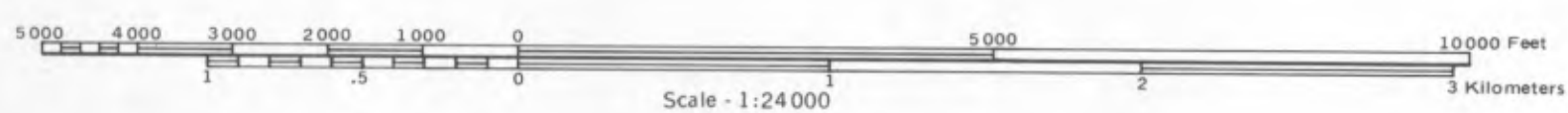
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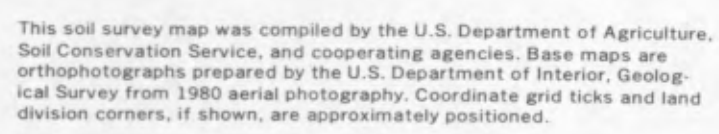






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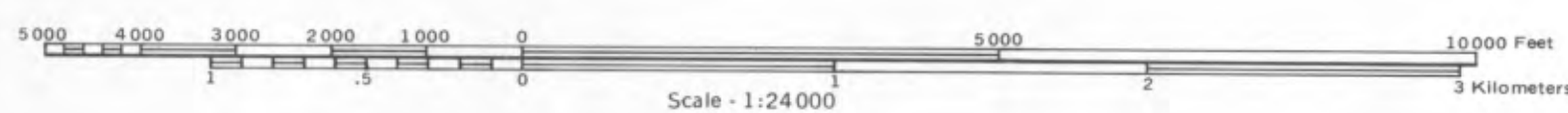
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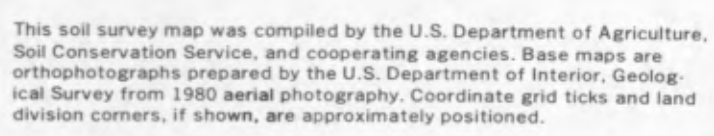
5000 4000 3000 2000 1000 0 5000 10000 Feet
1 1.5 2 3 Kilometers
Scale - 1:24000

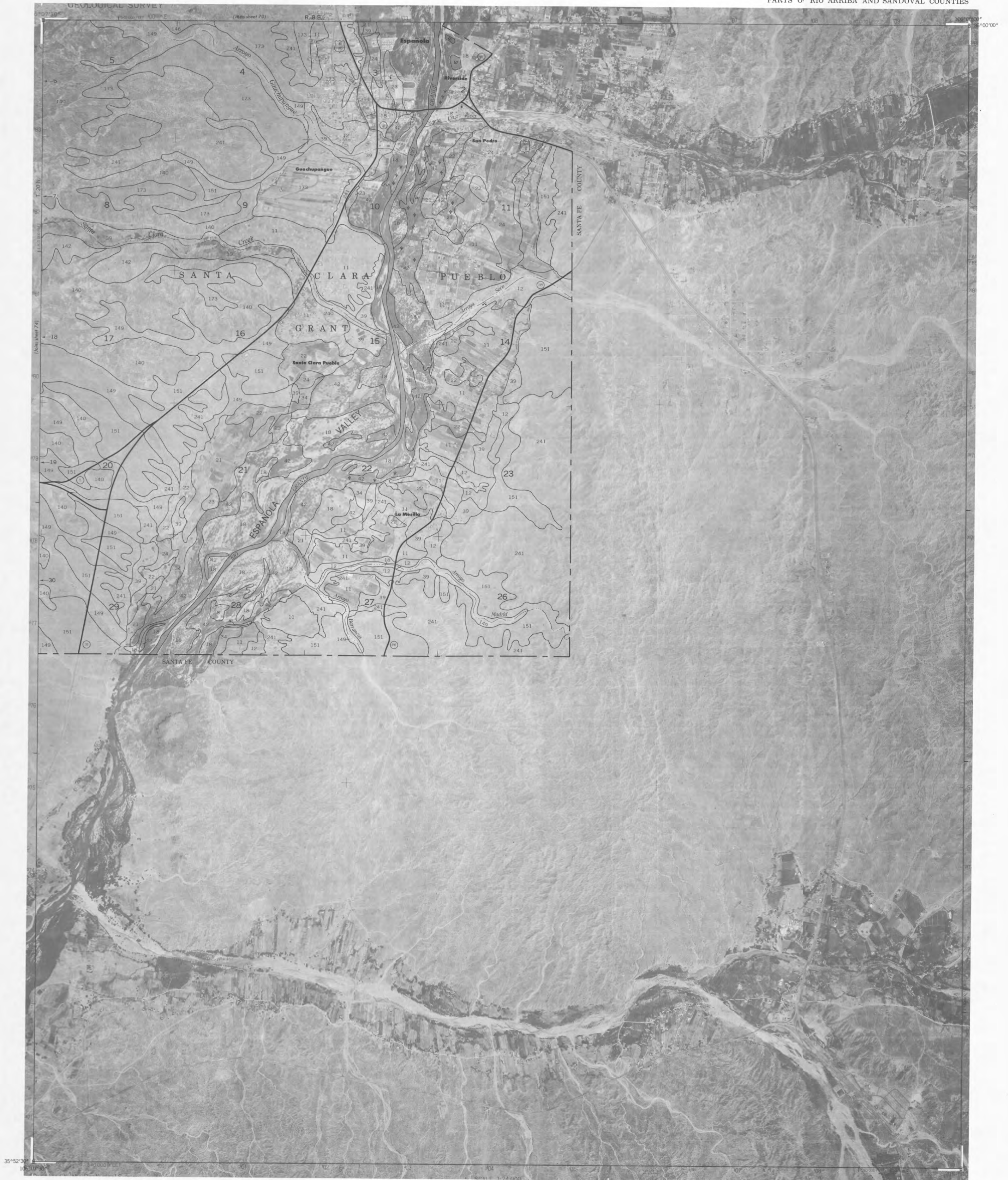




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Scale - 1:24000
0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 Feet
0 1 2 3 Kilometers